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Brick	III	Roofing Tile	IV

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## CONTENTS

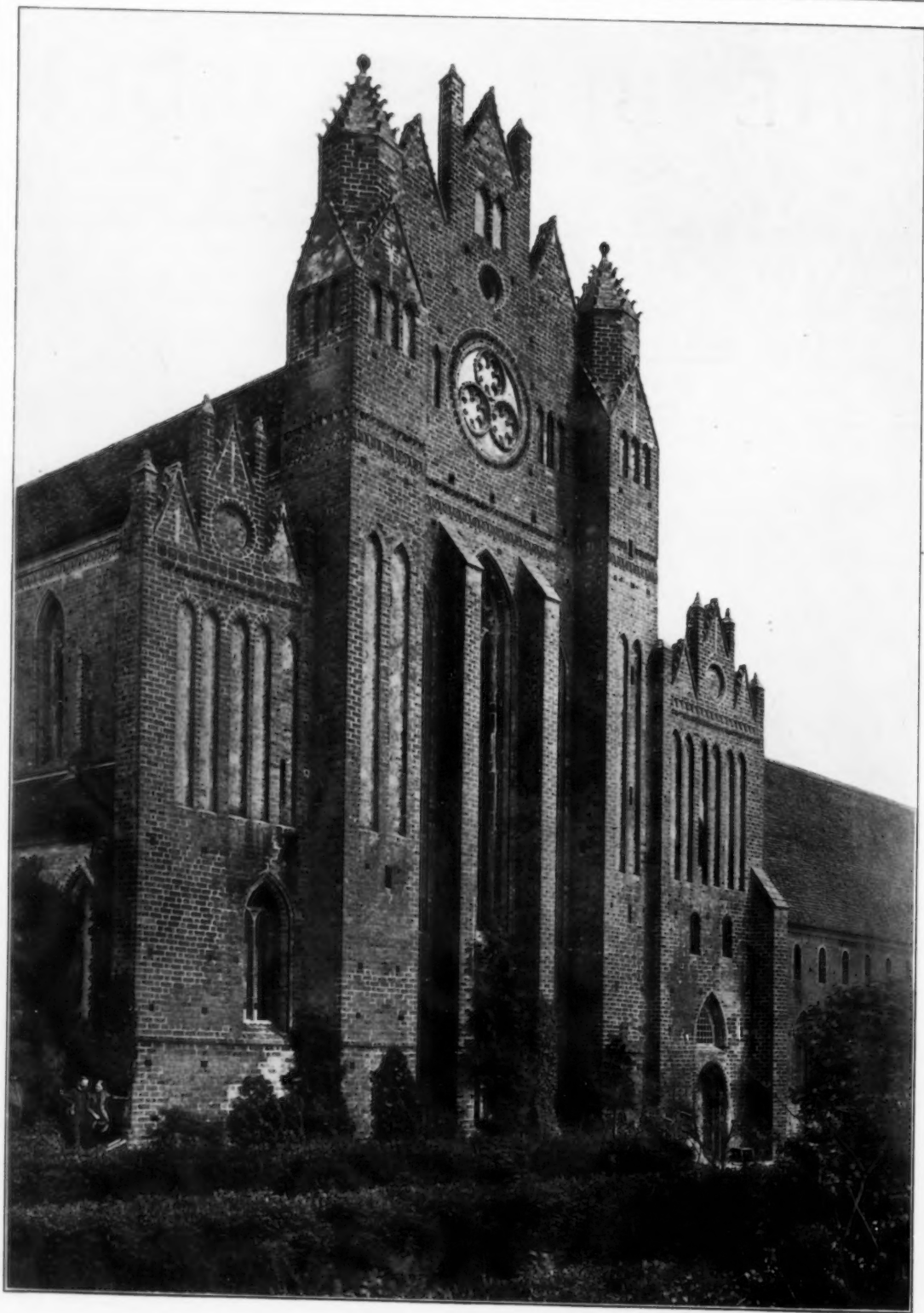
### PLATE ILLUSTRATIONS

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### LETTERPRESS

WEST FRONT, CISTERCIAN MONASTERY, CHORIN, GERMANY	Frontispiece
THE AMERICAN THEATER—VI	Clarence H. Blackall 89
THE PUBLIC BATH—IV	Harold Werner and August P. Windolph 92
DALECROSS GRANGE AND OTHER HOUSES	Michael Bunney 97
ADMINISTRATION BUILDING, NAVAL ACADEMY, ANNAPOLIS, MD.	Illustration 100
A MODERN PARIS APARTMENT HOUSE	George B. Ford 101
A VILLAGE RAILWAY STATION	William L. Welton 104
EDITORIAL COMMENT AND MISCELLANY	106



WEST FRONT, CISTERCIAN MONASTERY, CHORIN, GERMANY.

# THE BRICKBUILDER

VOL. 17 NO. 5      DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY      MAY 1908

## The American Theater — VI.

### BALCONY CONSTRUCTION.

BY CLARENCE H. BLACKALL.

THE constructive problems involved in the planning of a theater are such as are encountered in any modern fireproof building, with the exception of the framing of the balcony and gallery and the forming of the stepping of the various floors to receive the seats. These factors call for special consideration on account of the necessity of avoiding any columns which could obstruct the view, as well as on account of the specific requirements of fireproofing.

Columns supporting a gallery or balcony do not of themselves constitute a serious obstruction to the view of the stage. Before the days of steel construction they were accepted as a matter of course, and even in such

are even tolerated among the seats of the balcony. In some cases it is possible to omit columns in the balcony by suspending the gallery by rods dropped from the trusses or girders over the main ceiling, as has been done in some of the best of the New York theaters, but such an expedient is by no means satisfactory in appearance and is hardly justified by the resulting economy. The best way is to omit columns entirely.

There is almost no limit to the amount of overhang which can be constructed with properly designed cantilevers. Figure 1 shows one case where the overhang was nearly 27 feet, the steel work averaging less than twenty-three pounds per square foot. In this case the cantilevers were only 7 feet on centers over the bearings, converging to nearly 3 feet at the end, and were connected by concentric lines of wooden floor beams which carried the flooring, the building not being of fireproof construction.

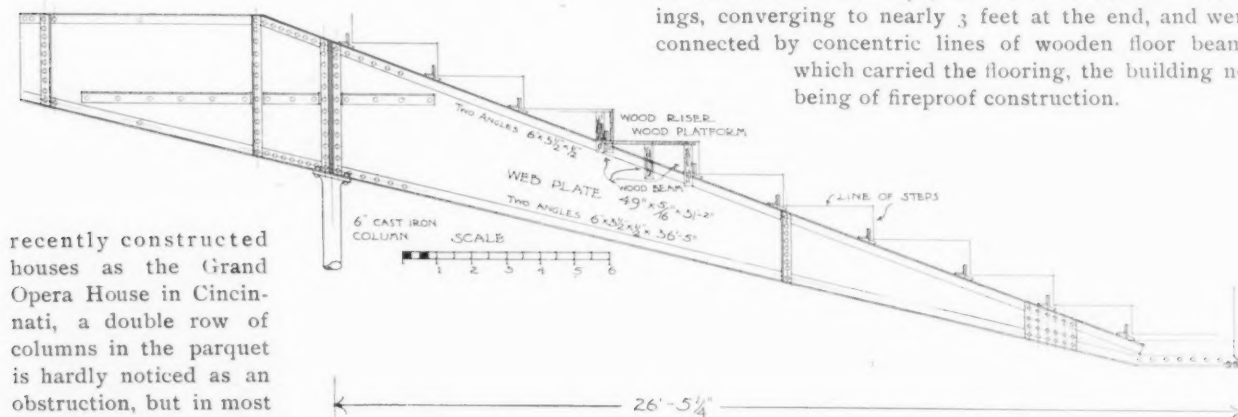
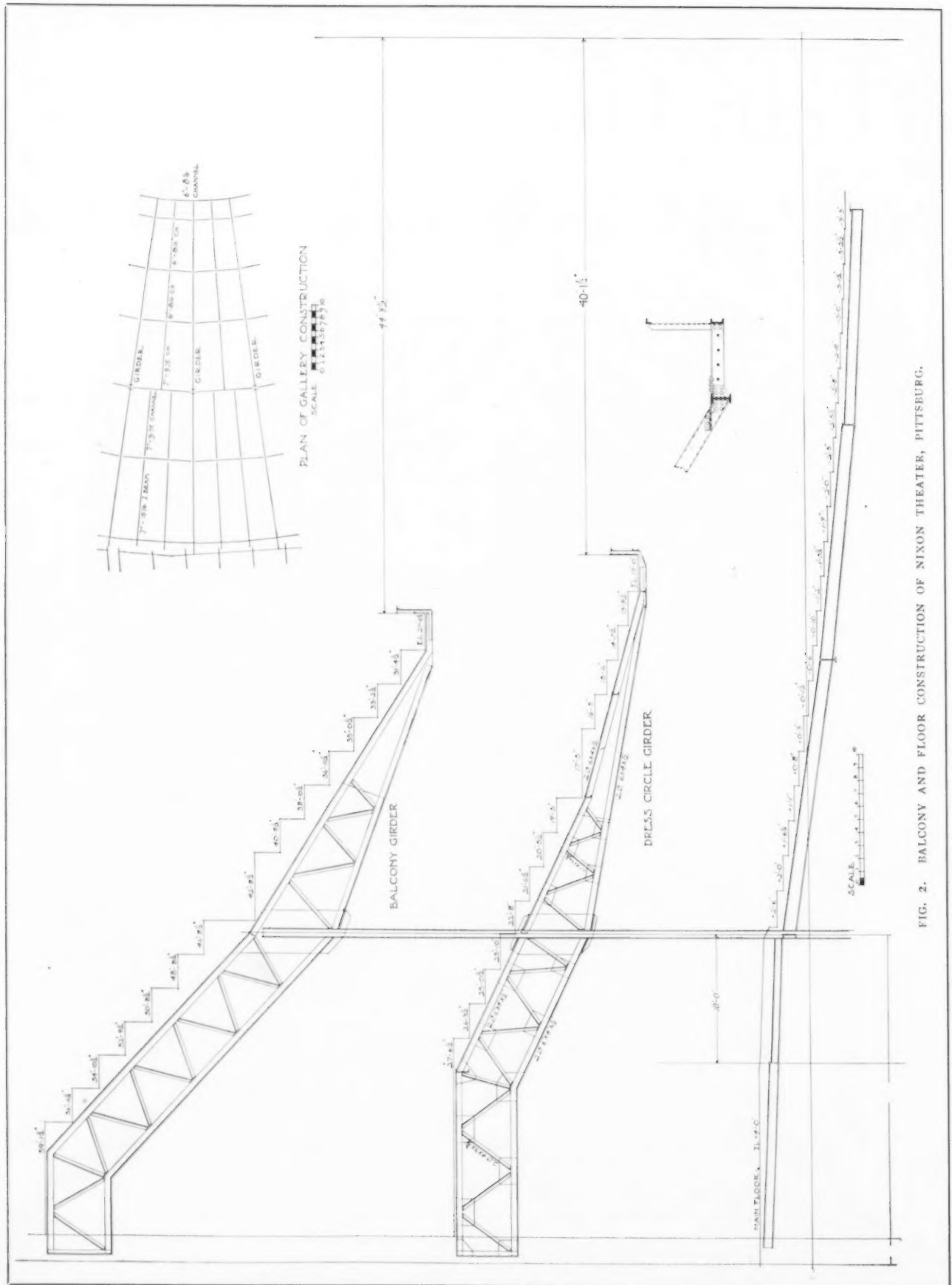


FIG. 1. BALCONY CONSTRUCTION, AUDITORIUM, UNIVERSITY OF ILLINOIS.

recently constructed houses as the Grand Opera House in Cincinnati, a double row of columns in the parquet is hardly noticed as an obstruction, but in most of the modern houses the entire absence of columns is considered an added virtue which is worth all its costs. The cost of a cantilever construction is, however, by no means excessive. The weight of such construction usually amounts to a minimum of about twenty pounds per square foot for cantilevers projecting not over 18 or 20 feet, resting on girders spanning not over 65 feet between the side walls. These weights include only the steel work, and as they increase very rapidly as the spans are increased, it becomes quite an object for study to reduce the overhangs of the balconies to the most strict minimum. Hence, while columns may be vigorously excluded from the body of the parquet, they are permissible at the rear of the seats on the line of the standing-up rail, and

Figure 2 shows the typical construction in the Nixon Theater, Pittsburg, a fireproof structure. The cantilevers are spaced a considerable distance apart and are braced by connecting channels, while the risers for the steppings are formed with light latticed girders, built on a sweep and resting on the cantilevers.

Figure 3 shows in detail the balcony construction of the Colonial Theater, Boston. The cantilever columns are on the line of the stand-up rail at the back of the rearmost row of seats of the orchestra. The columns are connected by a girder bent in plan following the radius of the stand-up rail. Bracketing out from this girder are the cantilevers, projecting nearly 15 feet and ending with a double angle iron bent





up to form the support for the rail. The cantilever on the rear of the girder is carried across to the wall of the foyer and thence across to the foyer ceiling, receiving its anchorage from the outer wall of the building. The columns of the gallery rest upon the balcony cantilevers, these columns in turn supporting the cantilevers of the gallery. To be strictly consistent, these balcony columns should be omitted and the cantilevers supported entirely by the two masonry walls, but these columns can be made quite small, four or five inches in diameter, and do not really constitute a very serious interference with sight. The cross girder upon which the balcony cantilevers are built is not only curved in plan but it also pitches towards the stage each way and requires most careful designing and has to be braced for a side bending or twisting strain as well as for the transverse load. The cantilevers are spaced from 8 to 12 feet apart and are connected by curved lattice work corresponding to the outlines of the balcony steps. A nailing strip is bolted to the top of each lattice, and a concrete tread and riser cast in place with steel reinforcement, the  $1\frac{1}{4}$ -inch upper floors being nailed to radial sleepers buried in the concrete, while the riser is nailed to the floor boards above and below. The floor boards are made  $1\frac{1}{4}$  inch so as to allow for screwing the opera chairs in place. In each of the preceding cases the finished floors are of wood and columns are not entirely eliminated.

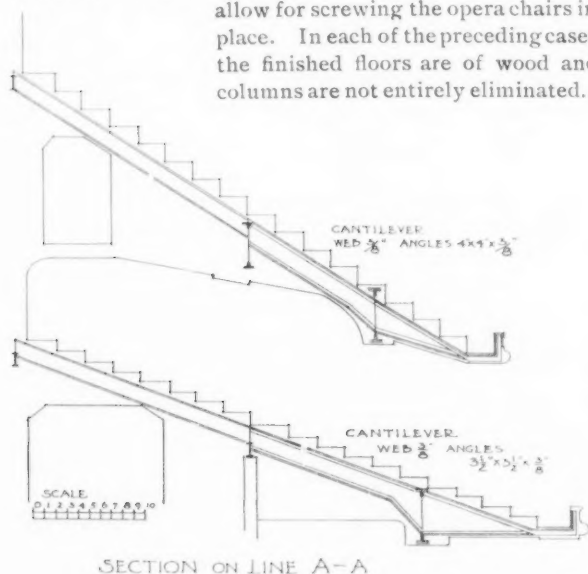


FIG. 4. BALCONY CONSTRUCTION, NEW LYCEUM THEATER, BOSTON.

Figure 4 shows the construction adopted in the new Lyceum Theater, Boston. There are no columns visible anywhere. The cantilevers are carried by heavy cross-girders spanning from wall to wall, or are bracketed out from the wall columns. The girders are all concealed in the spaces below the balcony and gallery, and the projection of the cantilevers is reduced to a minimum. No wood of any sort is used in connection with this construction. The cantilevers are connected by concentric

lines of reinforced concrete beams, which form the faces of the risers and are cast homogeneous with the reinforced concrete platforms. Later, the exposed surfaces are skimmed with a granolithic finish. Ratty wall plugs are built into the platforms, into which are worked the screws holding the seats. In some of the aisles the

surfaces are covered with linoleum, pasted directly to the concrete with fish glue cement, and where carpets are thought expedient, they are tacked to three-quarter inch beveled nailing strips built into the concrete. The steel work of this construction weighs a trifle less than twenty pounds per square foot.

A construction entirely of reinforced concrete may suggest itself as a possibility, but reinforced concrete cantilevers of such large dimensions would be clumsy and, of course, very heavy

in proportion to their strength. In some small lecture halls and audience rooms the galleries or balconies have been formed with the Guastavino tile construction, turned between the cantilevers, upon which the steppings are built up in concrete, but so far as known, this construction has never been applied to a theater.

The building laws of most cities prescribe provision for a live load on theater floors of one hundred and twenty-five pounds per square foot. In figuring the cantilevers, it must be remembered that at times all of the live load may be concentrated on the overhanging arm, producing thereby a large negative moment on the opposite side of the girder or wall, for which proper provision must be made. In the first instance illustrated herein (Fig. 1) the negative moment was as high as



117,500 pounds. One hundred and twenty-five pounds per square foot is, however, way on the safe side. It is a physical impossibility to crowd people more closely than the seats themselves, — or at the rate of one person to about four square feet, equivalent to not over forty pounds per square foot.

It is absolutely essential that when the balcony construction is assembled in place, the fronts of the cantilevers shall be exactly where they were planned for,

even the slightest variation sufficing to throw out the lines of the balcony front. Consequently it is a very nice operation to set these in position, and it is usually quite desirable to have the connections so planned that some adjustment can be made after the cantilevers are in place. In the construction of the Colonial Theater this was effected by setting the cantilevers on shores the exact heights required, and then putting on the splice plates for top chord over the girder by means of field rivets, the holes being drilled after the cantilever is set. A very simple device has been used by the writer on one occasion with good success. In this instance each cantilever rests directly upon a column carried down to the basement, the cantilevers being braced between themselves by light lattice struts. The foot of each column rests upon a broad, slotted plate, in which is inserted the cap of a jack screw. The columns supporting the cantilevers are of cast iron six inches in diameter, leaving a four-inch hollow space. The jack screw rests upon a bed plate, and the screw is free to work up and down in the hollow space of the column. In setting the columns the foundation is prepared as nearly at the right level as possible, the lower plate set, the jack screw put on top of this, and the upper plate and the column put in position. When all the cantilevers are in place the jacks are screwed up or down, raising or depressing the overhang of the cantilevers until each is in its exact position. This can be done after the fireproofing is in place, so that the adjustment includes the

compensation for varying deflections. When the cantilevers are just right, the space between the upper and the under plates is filled solid with concrete, both the plates being made of a size proportioned to the load upon the concrete bed. The cost of this amounts to hardly more than fifteen or twenty dollars per column.

It is one of the inherited traditions of our building laws that even though a theater may be constructed throughout on the most approved fireproof system, nevertheless a proscenium wall of brick is insisted upon. Its value is very largely sentimental. As far as actual protection is concerned, it could be omitted entirely and the same degree of safety obtained by the use of suitable fireproof partition work between the members of the steel skeleton.

In a theater of a second-class or non-fireproof construction, however, the brick should be insisted upon for the proscenium wall and each opening therein should be most carefully guarded by fireproofed door or curtain. It goes without saying, that every theater should be fireproof. There are, however, many theaters built in small towns which are of second-hand construction throughout, and in which the local conditions, it is claimed, do not permit the expense of a fireproof building. Such structures, of course, are restricted in the amount of overhangs and are obliged to introduce post and girder construction to an extent which can be obviated entirely by the use of steel.

## The Public Bath—IV.

### OPEN AIR BATHS.

BY HAROLD WERNER AND AUGUST P. WINDOLPH.

OPEN air baths form a valuable auxiliary to the interior or all-year baths; we find three types of them—the river, seashore and park.

Although the river type was the earliest introduced in America, our municipalities have given, as a rule, but scant attention to this form of bathing, and the river bath of to-day shows but little improvement over early experiments.

The usual type consists of a platform placed upon floats, the pool being in the center of the platform, so constructed as to allow a free circulation of water. Grouped around the pool is a single row of simple dressing boxes, while the formality of the preliminary cleansing shower is not provided for.

For the past two decades New York City has kept in operation an extensive system of these river baths, but increased sewage and constant danger of contamination from this source has compelled the city authorities to condemn most of them.

Contamination of the water is a serious objection, and it has militated against this form of bath in many of our cities. In Paris the danger of contamination has been eliminated by disposing of the sewage in the Seine several miles below the city, while in Vienna the large city river bath sets back some distance from the river's edge, and the water is introduced into the pool by means of a canal and sluiceway, which insures its being sanitary. On the Danube, Rhine and other European rivers, we find various devices for keeping the water clean; but until our cities solve the sewage disposal problem the river bath cannot play an important part in bath economy.

Seashore baths are more sanitary, and if convenient to

the municipality are of greater benefit to the community. There are several forms of the seashore type,—one, setting back from the ocean, receives the water through a canal, the same system of supply as used in some of the river baths. There are not many in this country and



TYPICAL OPEN AIR POOL, CHICAGO PUBLIC BATHS.



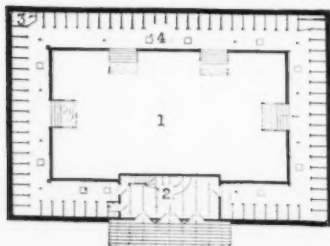
CASINO AND BATHING PAVILION FOR THE BOROUGH OF DEAL, NEW JERSEY.

they do not compare in size to those abroad. A celebrated European example is the Havre des Pas Bath on the Isle of Jersey. On this dangerous coast there has been much loss of life by drowning, and the municipality realized that its people must have a place to learn to swim, and, not having the means to provide interior bathing facilities, they constructed a shore bath in the solid rock, which is in many ways the most unique bath in the world.

The pool was formed by blasting the rock to proper slopes, the interstices being filled in with concrete, which formed the side walls. The bottom was properly graded, allowing a shallow place for beginners and sufficient depth for diving.

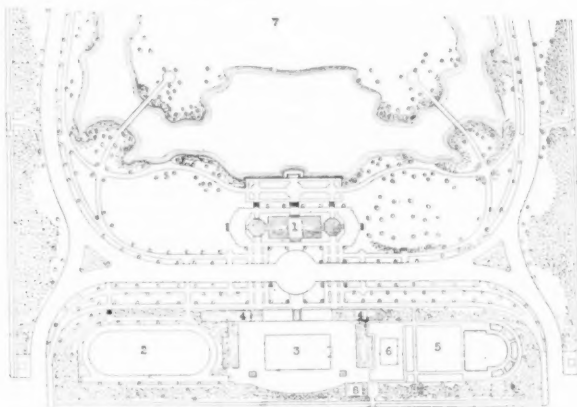
The pool is entirely enclosed by a series of dressing rooms and a large number of shower baths. The area of the pool is enormous, covering nearly three acres. Water is introduced by means of a sluiceway, which controls a tidal movement, frequently exceeding forty feet, and which allows flushing and refilling the entire basin at every tide. In the colder seasons this pool, or rather miniature lake, is used for boating purposes.

We find other seashore baths on this island, similar in principle but considerably smaller, which have furthered the art of swimming and greatly reduced the loss of life.



PLAN OF RIVER BATH.

1. Pool. 2. Waiting Rooms.  
3. Toilets. 4. Dressing Rooms and Corridor.



SHERMAN PARK BATH, CHICAGO.

1. Closed Gymnasium and Shower Bath. 2. Men's Open Air Gymnasium. 3. Swimming Pool. 4. Dressing Compartments and Locker for Pool. 5. Children's Pool and Field. 6. Women's Open Air Gymnasium. 7. Play Ground.

Across the Channel at Port Sunlight there is another bath of this type which sets back some distance from the ocean and is supplied with salt water by means of a large service main. The pool is elliptical in shape, the intention being to allow the bather to swim continuously without turn-

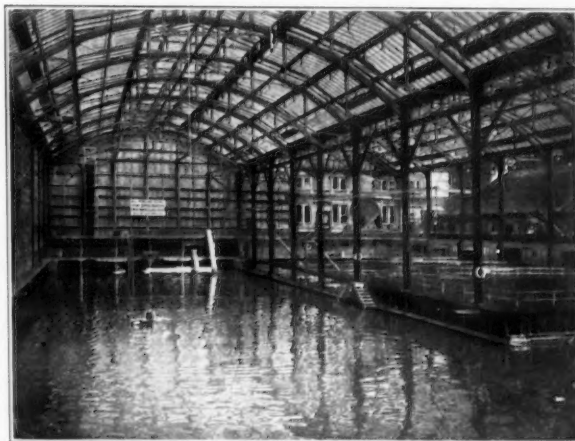
ing, as he is compelled to do in the ordinary rectangular pool. The dressing rooms enclose the basin and are provided with a single runway, the customary English arrangement.

A few attempts have been made along the rocky coast of New England to provide baths of this character, but they are not municipal, and as a rule are small structures which call for no special comment.

Occasionally we find shore baths with bathing and dressing facilities entirely enclosed as in the interior type. This is true of the Sutro Baths situated on the shores of the Pacific, which consist of no less than six pools, entirely enclosed with glass. A large spectators' balcony has been provided, with adjoining lounging and refreshment rooms. The pools are supplied with salt water by means of a service main, which extends several hundred yards into the ocean. While the pools are usually filled by the tidal movement, an auxiliary set of pumps supply tanks, which are used under certain tidal conditions. The water in the larger pool is kept

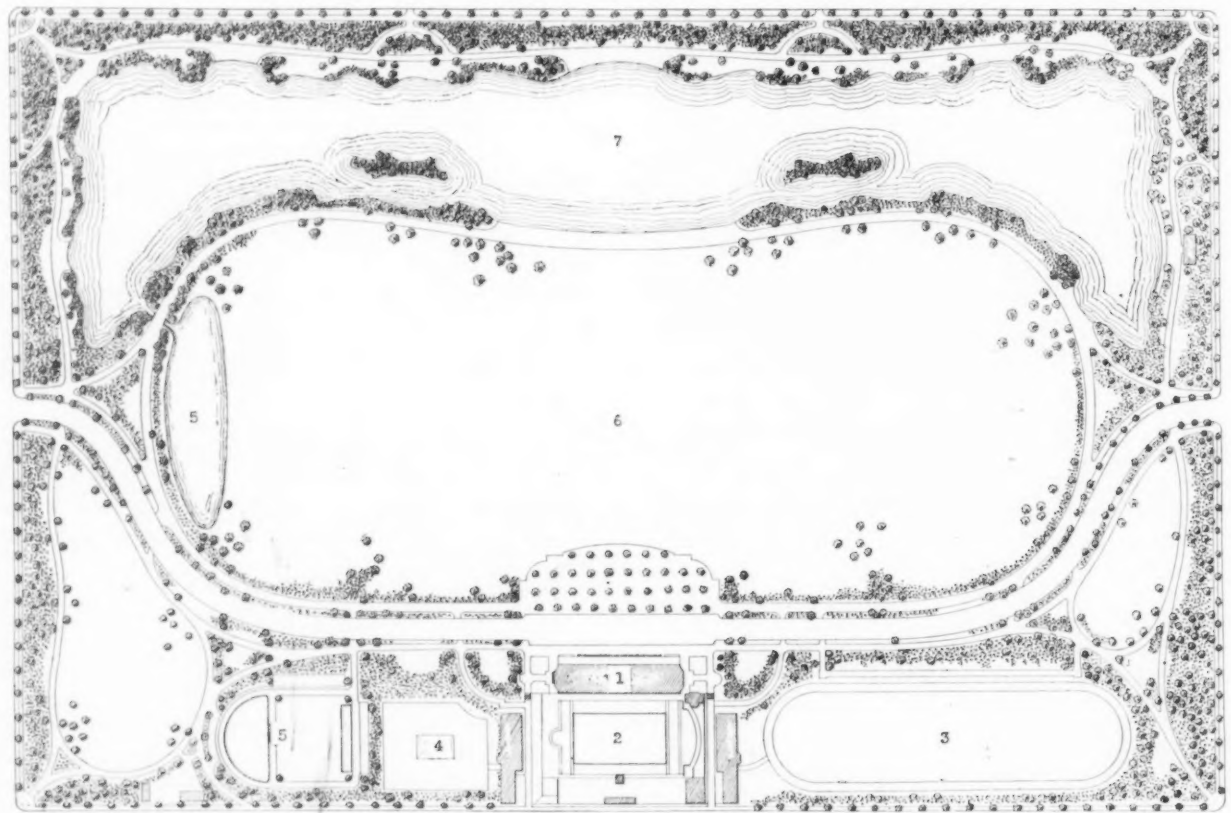
at the normal sea temperature, but the smaller pools are heated to varying degrees of temperature. The large pool is nearly five hundred feet long, and with the smaller ones contain a million gallons of water, with a total bathing capacity of two thousand units, comparing favorably in size to the largest of the early Roman institutions.

Another example of the seashore bath, with the dressing and shower facilities enclosed, but with open sea bathing, is the State Bath at Revere, Mass. The plan is simple and the building is well adapted to handling without confusion a large number of bathers at one time. The administration building is in the center, flanked by dressing-room yards, which are enclosed with brick walls. The dressing rooms have a rather novel arrangement, being planned in two tiers,

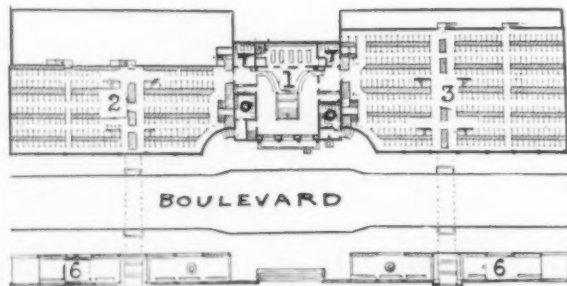


SUTRO BATHS, SAN FRANCISCO.

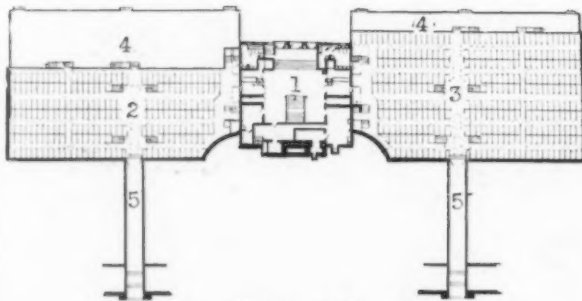




OGDEN PARK BATH, CHICAGO.  
1. Closed Gymnasium and Shower Baths. 2. Swimming Pool. 3. Men's Open Air Gymnasium. 4. Women's Open Air Gymnasium.  
5. Children's Pool. 6. Field. 7. Lagoon.

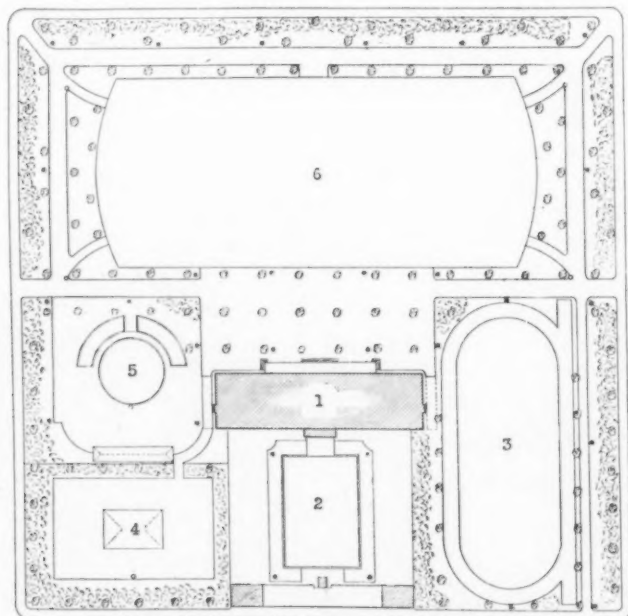


FIRST FLOOR PLAN.



BASEMENT PLAN.

STATE BATH, REVERE BEACH, MASS.  
1. Waiting Room. 2. Women's Dressing Rooms. 3. Men's Dressing Rooms. 4. Yards. 5. Subway under Boulevard to Beach.  
6. Open Pavilions. T. Toilets. O. Offices.



DAVIS SQUARE PARK BATH, CHICAGO.  
1. Closed Gymnasium and Showers. 2. Swimming Pool. 3. Men's Open Air Gymnasium. 4. Women's Open Air Gymnasium. 5. Children's Pool. 6. Field.



so that the passageways of the lower stories come between the backs of the dressing rooms of the second story. This leaves all the passageways clear to the sky, providing the necessary light and air for all of the dressing rooms. The right wing is exclusively for men and the left for women. The basement floor of the administration building contains, besides the main entrance hall and dressing rooms, toilets, storage rooms, an emergency hospital and the boiler room. The upper floor contains the administration rooms and a thoroughly equipped laundry for the care of bathing suits. The subways provide direct access, under the highway, to the beach. The general plan and arrangement could hardly be improved, but its facilities for the public could be increased



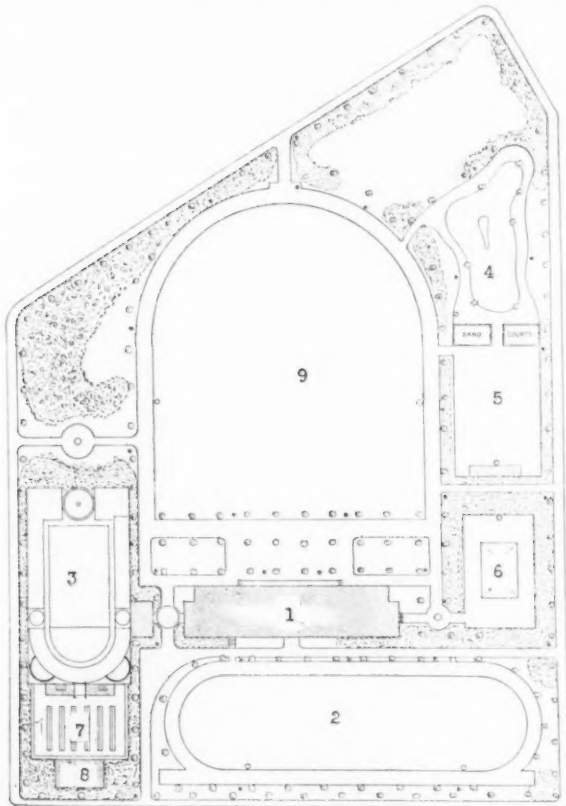
STATE BATH, REVERE BEACH, MASS.

bathing, they have an enclosed gymnasium as well as lecture and reading rooms for use during the winter months. These baths are situated in the densely populated sections of the city and their total yearly attendance is in excess of the interior baths.

The Mark White Square Park Bath, Chicago, is an excellent example of this type. The enclosed gymnasium building, the men's open gymnasium and field, are on axis, flanked on the left by the men's swimming pool and on the right by the children's pool and women's open-air gymnasium. The main pool is of ample size, with graded depths, and the water is thoroughly sanitary, as the supply is taken from the city mains, and the pool is constantly being replenished. Two stories of dressing compartments are at the head of the pool and preliminary cleansing shower baths have been provided for. The power plant is in the rear of the dressing wing. The gymnasium or field house has shower-bath facilities supplied with warm water for all-year bathing. A considerable part of the building is utilized for a lecture hall and reading rooms.

The Davis Square Park Bath, Chicago, of about the same capacity as the one in White Square, offers similar facilities, although in this instance we find the main pool and gymnasium building on axis.

The Sherman Park Bath, Chicago, covers a considerably larger plot than the other two mentioned. Here the dressing-room building nearly encloses the



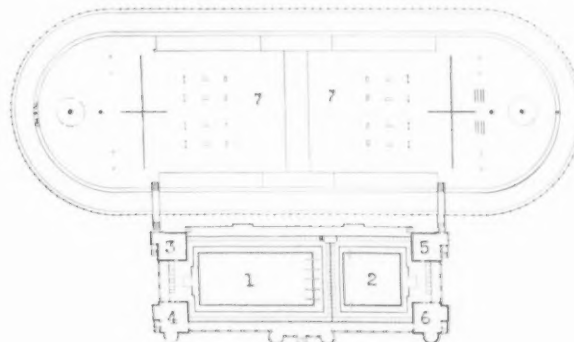
MARK WHITE SQUARE PARK BATH, CHICAGO.

1. Closed Gymnasium and Shower Baths. 2. Men's Open Air Gymnasium. 3. Swimming Pool. 4. Children's Pool. 5. Field. 6. Women's Gymnasium. 7. Dressing Compartments. 8. Boiler and Power House. 9. Field.

by utilizing at least part of the building for bathing purposes during the winter months. This is a criticism which may be applied to all seashore baths, with one or two exceptions.

In the park baths we find part of the facilities available during the winter months, and, as a rule, gymnasiums are combined with them.

Boston has a few examples of this type and a few isolated ones are found in cities of the second and third class. It is in Chicago, however, that we find a complete system of park baths in operation, and, while strictly speaking they are of the open-air type, they suggest the interior baths, because, in addition to their provisions for



DOUGLAS PARK BATH, CHICAGO.

1. Men's Swimming Pool. 2. Women's Swimming Pool. 3. Men's Dressing Room. 4. Men's Waiting Room. 5. Women's Dressing Room. 6. Women's Waiting Room. 7. Open Air Gymnasium.

pool and the sexes are separated by the intervening buildings.

In the Ogden Park Bath, Chicago, the pool is enclosed on three sides, affording protection to the bathers from the prevailing winds. In addition to the children's pool there is a larger natural pool which adjoins the park lagoon.

The Douglas Park Municipal Bath, Chicago, differs from the usual type, the gymnasium, dressing and shower rooms being in one building, which encloses poolbaths for both sexes. The pools are completely surrounded

by the dressing rooms, the gangway being separated from the pool only by a guard rail. The prelim-

inary cleansing showers are at the head of the pools and are to be commended for their liberal size, — fifty-five by one hundred and twenty feet for the men's basin and

fifty-five by sixty feet for the women's. The depths range from two feet six at the shallowest end to eight feet at the deepest. Some of the waste water from these pools is returned to the boilers and the balance emptied by gravity into the park lagoons.

Chicago has operated this system of park baths for only a few years, but has amply proved that they are in conjunction with interior baths, a val-

uable asset for all large cities, tending to the elevation of both the moral and physical well-being of the community.



SWIMMING POOL, WISSAHICKEN HEIGHTS CLUB, PHILADELPHIA.

## A Third-Floor Swimming Pool.

THE swimming pool in the new building of the Racquet Club in Philadelphia is sustained above the beautiful central hall of the ground floor. This hall is square and is comprised within twelve vertical supports extending the height of the building. Its ceiling, which is of plaster and coved, is elaborately enriched with painted and relief ornament. Every precaution was necessary to protect this ceiling from possible injury which might be caused by the large body of water upheld above.

The twelve structural columns already mentioned occur, one at each corner of the tank and two midway of each side. The four corner columns are tied together by plate girders 3 feet deep; and from two intermediate columns on each side to two corresponding columns opposite extend similar girders. Across these girders 15-inch I-beams are laid about 18 inches apart. Upon this foundation the steel tank was set. The tank is 35 feet square inside and contains about 7,962 cubic feet of water 4 feet 6 inches deep at one end and 8 feet 6 inches at the other. When the tank is thus filled the weight of the contents is nearly 25 tons and the surface of the water is  $7\frac{1}{2}$  inches below the terrazzo floor surrounding the pool.

The tank is lined and waterproofed as follows: Upon the steel bottom 3 inches of concrete was laid, then 1 inch of asphalt mastic, then 3 inches of concrete upon which a floor of circular tiles  $\frac{3}{4}$  inches in diameter was

laid in cement. On three walls of the tank including the shallow end  $1\frac{1}{2}$  inches of asphalt mastic was laid against the steel, then 4 inches of brick laid in the mastic, and on the brick 3 x 6-inch tiles were laid in cement. On the wall at the deep end the brick is 9 inches thick. The mastic was hot when the bricks were laid, and the front of each joint was filled with it, the back being left until a height of five courses was reached. Then the hot material was poured in behind and made to thoroughly fill and seal the space. Five more courses were laid and similarly grouted, then five more and so on. At the top, the mastic was turned over the edge of the tank, under a marble coping  $5\frac{1}{2}$  inches high and continued over the entire area surrounding the pool. A layer of concrete covered with terrazzo produced the finished floor and brought it up flush with the coping.

The space between the bottom of the tank and the ceiling of the hall underneath is sufficiently high for a man to walk. The floor of this space is protected by means of a coat of concrete and one of asphalt mastic, and the chamber is ventilated through several openings provided at each side. Water is pumped into the pool from an artesian well bored for the express use of the building. The piping is also so arranged that the pool may be filled from the city water main. The pool is drained directly to the street sewer.

## Dalecross Grange and Other Houses.

*Crouch and Butler, Architects.*

BY MICHAEL BUNNEY.

LIKE most of the large English towns, with the notable exception of London, Birmingham has the advantage of possessing in its vicinity a tract of fine upland country within half an hour's rail journey of the central parts of the city and yet so little spoiled and so little in danger of being spoiled that it will provide for many years to come a playground and a dwelling place for those whose work lies in the grimy surroundings of this industrial center.

has been carefully guarded by judicious laying out of the different estates already under development and the preservation as open spaces for all time of large tracts where the natural beauties are more particularly pronounced.

Barnt Green and other parts nearest to the railway and most accessible to Birmingham have naturally become more peopled with houses than the remoter hills, but even here the estates are so large and the distances



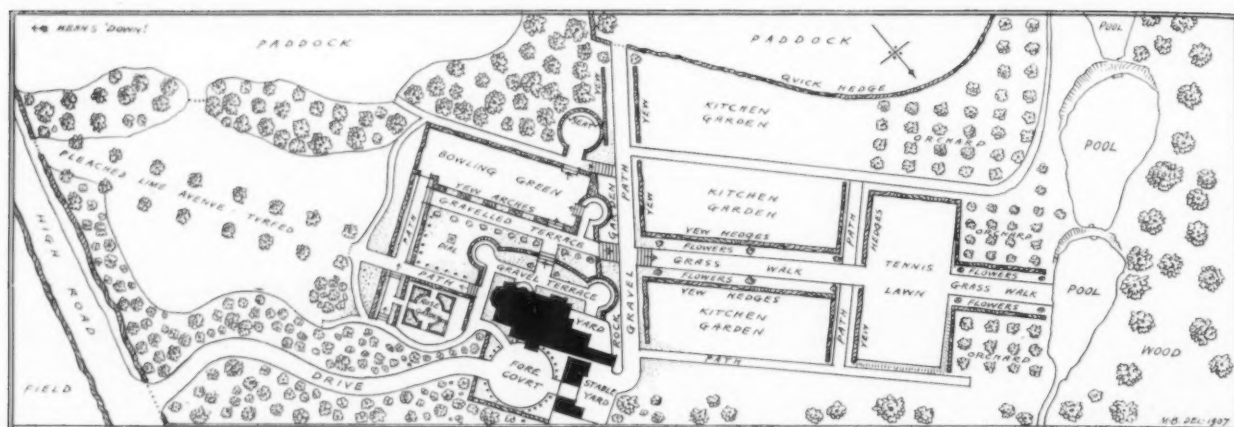
HOUSE IN PRITCHATTS ROAD, EDGBASTON.

It is, of course, inevitable that such districts as the Lickey Hills should be more or less monopolized by the wealthier resident to the partial exclusion of those whose moral claim to a share is just as great, still there is compensation in this, that large houses, with their necessarily extensive grounds, do, to a great extent, prevent even that amount of crowding of the landscape which the presence of smaller buildings must perforce bring about. The character, therefore, and the appearance of these semi-urban districts and, most important of all, their woodlands are preserved unspoiled. The charm of the Lickey Hills is still the old forest growth, and a great deal of this

between the buildings so carefully kept that the obtrusion of bricks and mortar upon the lovely undulating woodlands is reduced to a minimum. It is in this district that Dalecross Grange is situated.

Architects of country houses are lucky when they get fine natural surroundings amongst which to place their work, and doubly so when those surroundings give a keynote for any constructional method that can be adopted. Half the unsatisfactory work that one sees is the fruit of a perversity that ignores local characteristics of construction. Even though a thorough adherence to half timber methods may be inadvisable now that the use of other





GROUND PLAN, DALECROSS GRANGE, BARNT GREEN, WORCESTERSHIRE.

materials has so much developed, it is surely better, in the forest counties of the West, to build, in some measure at least, after the traditional fashion of John Abel and the great carpenters of Hereford and Leominster. There is just enough of this half timber element in Dalecross Grange to carry on this traditional sequence; the long, vertical timbers are typical, too, of West country work, though they are not, perhaps, either so pleasing in their architectural effect nor so sound from a constructional standpoint as is the shorter and more elaborate woodwork of the South.

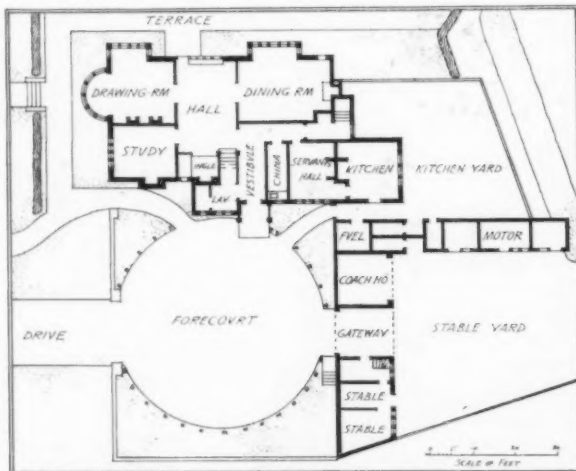
Otherwise the house is essentially modern, but the two qualities have been skillfully blended so as to prevent any sense of antagonism.

Within the house the timber construction, in oak, is again the ruling motive, and all the decoration and furniture is arranged to work in with this. Most of the furniture is old English oak, some of the pieces are remarkably fine specimens, and the carved paneling over the fireplaces in the hall and

dining-room is built up of old fragments worked in with the new. Those in the hall have biblical subjects sculptured in a quaint and simple way but with a great deal of character; they are probably of Dutch or German workmanship. Needless to say this old carving and the furniture add very much to the satisfactory effect produced by these rooms, but even without these the general treatment would be successful.

The garden is still growing up, and, as is the case before maturity is reached, its condition is now rather ragged. The site, which slopes rapidly towards the south, affords plenty of opportunity for terracing at different levels, and full advantage of this has been taken by the architects, while the axial lines of the layout have been well enforced.

Nearer to Birmingham, Messrs. Crouch and Butler have recently completed two interesting houses. Villette, at Berkswell, the smaller of the two, is notable for its whitewashed brickwork, a somewhat bold departure



PLAN OF HOUSE, DALECROSS GRANGE.



VILLETTE, BERKSWELL.





DINING-ROOM.



THE ROSE GARDEN IN WINTER.



THE PORCH.

DALECROSS GRANGE,  
BART GREEN, WORCESTERSHIRE.

UOPM

on a house of even this size, but the result in throwing up the charming center gable and chimney was well worth striving for by so simple a means.

Much the same kind of reasonable building is seen in the Edgbaston house with its clever grouping of gable, bay and chimney, the coarse Leicestershire bricks according well with the severe type of mullion and stonework generally. Inside the house is a treatment of constructional decoration in oak, similar to, though less ambitious than, that at Dalecross Grange.

Limewhiting for external use on either brickwork, plaster or roughcast is prepared as follows: Pure and clean unslaked lime is mixed with clean water to a consistency of cream, and while hot is freely spread with a large brush, never more than one coat being laid on.

This is the old and the simplest method of whitening, but in towns, or in otherwise dirty atmospheres, it requires renewal each spring, if the work is to keep a really fresh appearance.

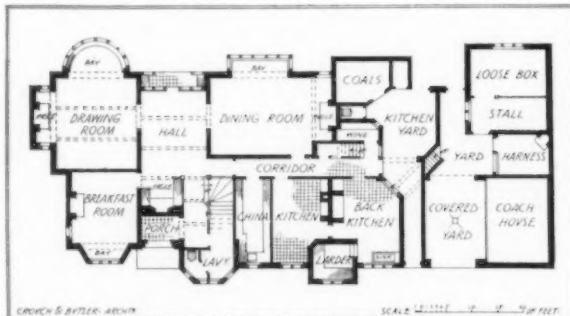
Ochres, pinks and Venetian reds were used as coloring pigments on many of the plastered cottages and farms in the south of England, and the presence of a pigment, of course, keeps the surface for some time from looking dingy. I have seen dark ochre-washed walls of twenty years' standing that still looked fairly fresh.

In clean, country air it would be well for the first three years on a new building, to whiten every spring, after that probably every third year would be sufficient.

The modern method of adding a small quantity of melted Russian tallow to the lime wash preserves the coat from flaking, the first symptom of

decay, and adds to its preservative quality as a covering to the material on which it is laid. The proportion is a pint of tallow to a bushel of lime.

Old limewhiting, before renewal, should not be washed off, but merely brushed with a stiff brush to remove the flaked particles,—it is the thick, uneven surface of oft-renewed limewhiting which gives such a pleasing texture to the wall surface.



PLAN OF HOUSE, PRITCHATTS ROAD, EDGBASTON.



ADMINISTRATION BUILDING, NAVAL ACADEMY, ANNAPOLIS, MD.  
Ernest Flagg, Architect.

## A Modern Paris Apartment House.

BY GEORGE B. FORD.

NEW ideas, if reasonable, are worth our attention. New solutions of old problems deserve study. Good or bad, they are bound to have some suggestion for us. In this connection, certain of the recent buildings in France demand more than a passing glance. The French architect rarely has more than one building to construct at a time. Being thus free, his best thought and study go into that building. It is only natural, therefore, that he arrives at some interesting results.

M. Deglane, well known as patron of an atelier and as architect of the Grand Palais, has just completed an apartment house in Paris, at the corner of the rue Grenelle and the rue St. Simon. This is in the very midst of the severely aristocratic Faubourg St. Germain, the quarter occupied by the exclusive families of the old French nobility. High walls and massive doors enclosing the forecourts, simple, dignified almost forbidding façades, narrow, somewhat winding streets, these characterize the neighborhood. Classic old friends from Cesar Daly greet you on every hand. A sense of well-being, of quiet and repose, stamp the region as one of true refinement. The financial condition of many of the younger branches of these old families does not permit of their occupying their ancestral homes. They can afford only a moderate rent. Their taste and training demand a certain restrained luxury of architectural treatment. Their social life demands that they remain in the neighborhood.

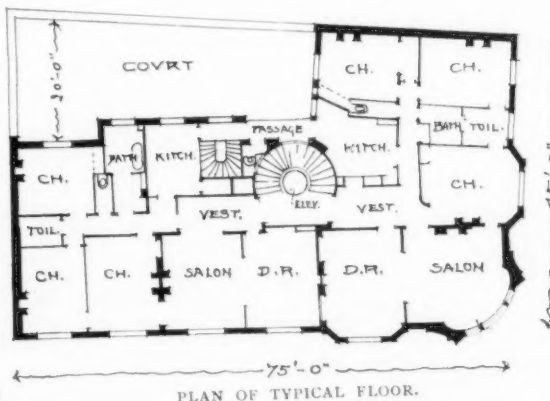
Such was M. Deglane's problem; to conform to these conditions; to fulfill these requirements, all on a lot 75 by 45 with two apartments, each of six rooms, on a floor. The apartments on any given floor, in accordance with an unwritten French law, have to be of nearly equal rental value. The plan has no especial interest for the American architect. Granting the habits of the French family life, it is well arranged. It is further unquestionably ingenious in its economical use of the space given. It is even quite exceptional, from the French standpoint, in having a bathroom with set tub in each suite, and even better, in that it has the water-closet separate from the bathroom. The toilets noted here serve as dressing-rooms. The numerous fireplaces are required by law. They at least give the Frenchman the entirely undemanded excuse for keeping his chamber windows closed tight all night, winter and summer. The stair entrance and vestibule come in the middle of the south side. Just to the right of the stairs are the concierge's rooms. The rest of the space on either side of the entrance is utilized, in the manner customary, even in some of the most expensive Paris apartment houses, by two small shops.

The chief interest for us, however, is in the exterior. An unwritten law demands that the ground floor shall be of stone, a good, hard, white limestone, as are also the sills and belt courses on the floors above. The rest of the stone is a warm buff limestone, lending itself well to carving, and harmonizing well with the red brickwork. This latter is laid Flemish bond in white mortar with well-raked joints. The brickwork on the top floor is laid in red mortar, which tends to unify the story, forming a sort of frieze about the top of the building. The wrought iron grilles and balcony rails are painted a green black. The lintels over the third-story windows are of terra cotta blocks, anchored in between the flanges of the I's.

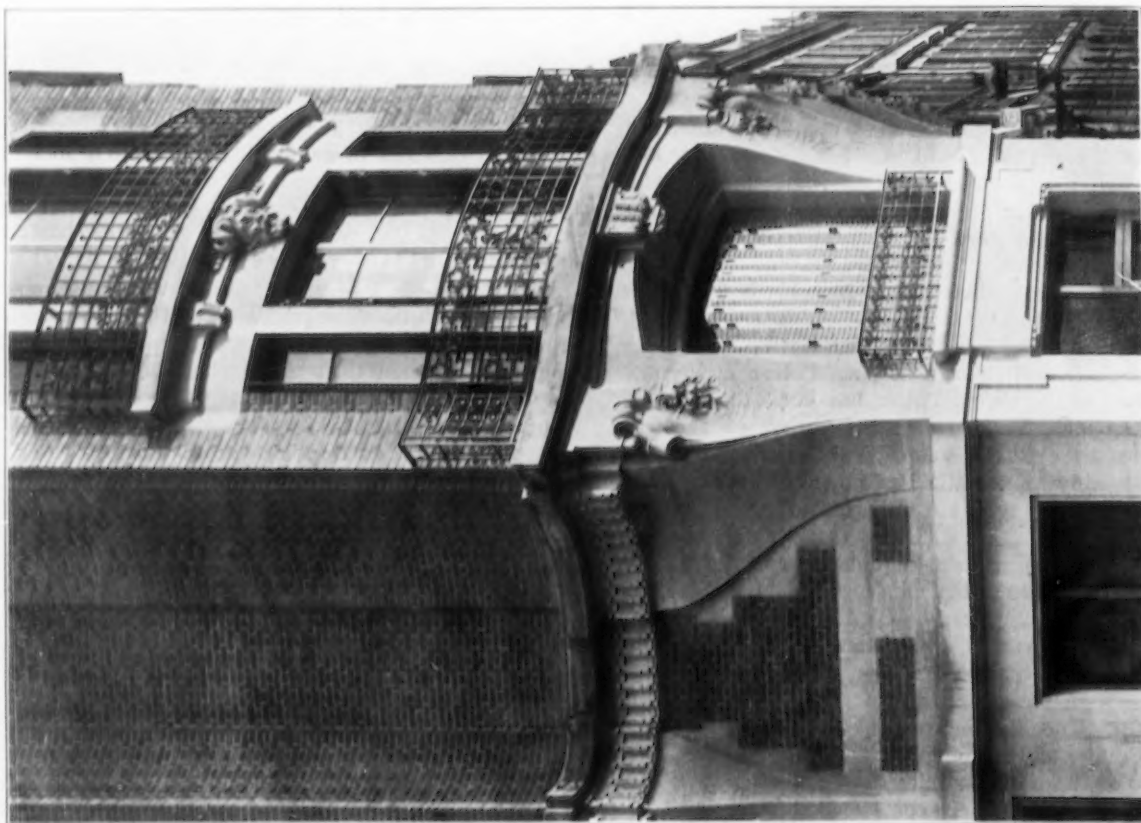
And when we turn to the general design we remark how frankly M. Deglane takes advantage of his corner lot. The great bow-window rising into a tower not only carries well on the exterior, but with its extra large windows gives most desirable rooms inside. Note the happy way in which he has tied this tower into the quiet street façades by the secondary bow-windows on other side. How naturally and without strain the stone changes to brick. How well chosen and well spotted are the masses of ornament and color throughout, relieved as they are against the plain brick surface, between the bow-windows. The decoration, too, is most in keeping with the rest of the building, bold and strong where needed, or delicate where appropriate. In fact, all the details are characterized by a robust refinement which gives the building a dignity of its own.

Many of the individual details are most carefully studied in themselves. Take the entrance door, for instance; how easily and playfully the bay-window grows out of it without any feeling of weakness or lack of support. Remark especially, too, the ironwork; how harmonious it is, how light and free, how full of individuality, and how varied in motif down to the main entrance door, which is unique and most striking in the absolute frankness of its plain, solid vertical and horizontal bars, relieved in just the right spots and just the right amount by the decorative flower motif in the panels, and the flowing spiral motif in the borders. This is the work of M. E. Robert, so well known in France for his artistic metal work.

With all its care, it is interesting to note that this house cost no more than its neighbors, that is to say, the building cost about \$70,000, which is at the rate of about \$22 per square foot or 28 cents per cubic foot. The rents average in the neighborhood of 45 cents per square foot, which makes the rent of the average six-room apartment, between \$640 and \$700 per year, taxes on doors and windows extra at 50 cents apiece.







APARTMENT HOUSE, RUE GRENELLE AND RUE ST. SIMON, PARIS. M. Delange, Architect.



101





DETAIL OF APARTMENT HOUSE, RUE GRENELLE AND RUE ST. SIMON, PARIS.

## A Village Railway Station.

BY WILLIAM LESLIE WELTON.

IN the realm of hypothesis all things are possible. So now that "Brickbuilderville" is tired of using a neighboring way-station, and has decided to build one for itself, it becomes necessary to devise a conveniently planned building conforming to the general architectural lines already established.

This imaginary village is, in reality, a suburb of a large city and some twenty miles distant, a charming community of three thousand people, in fact, a town in southern California, a sort of American Mentone, a smiling land with a luminous atmosphere.

Ever since the day Father Junipero set out from Mexico to colonize California and teach Christianity to the Indians this favored country has prospered and been admired by eastern civilization.

Our supposed town is at the base of the foothills of the Santa Ynez Mountains, where, on every hand, the landscape, from the first blush of morn to the golden pyres of sunset, seems about to smile with girlish joy. Long lines of swelling hills lead into the level and nowhere is one line firmly followed, but the whole wavers and yet is beautiful. It is a country where the broad, long lines of the mountains melt into the sea, and then soar again to the sky; where every piece of dithyrambic landscape forms a varied picture, whereof the composition is due to subtle arrangement of lines always delicate, which somehow seem to have been determined in their beauty by the mountain system, as though they had all taken their time to choose their place and wear down into harmony and one symphonious whole.

The arrangement of our plan presupposes the utmost simplicity and directness in arrangement. Merely a large waiting-room with a retired alcove for both men and women at either side. Space is provided for baggage, plumbing, etc. The ticket office is accused opposite the main entrance, commanding the room within and the track without. Pergolas screen the unsightly tracks from the public approach toward the square, and at the same time add an interesting line to the façade, leading the eye up to the culminating feature of the design — the main entrance. Covered shelters at each side of the roadbed offer protection to commuters in stormy weather.

So many "modern" railway stations are such impossible things, architecturally, that the public cannot be blamed for escaping to the track promenades in preference to remaining inside and be driven to a sepulchral

end. The refined iniquity of the authors of these plans is, to say the least, calculated to drive one to perdition. It may be parenthetically observed that the economy of the poor (?) railroad corporations is doubtless responsible.

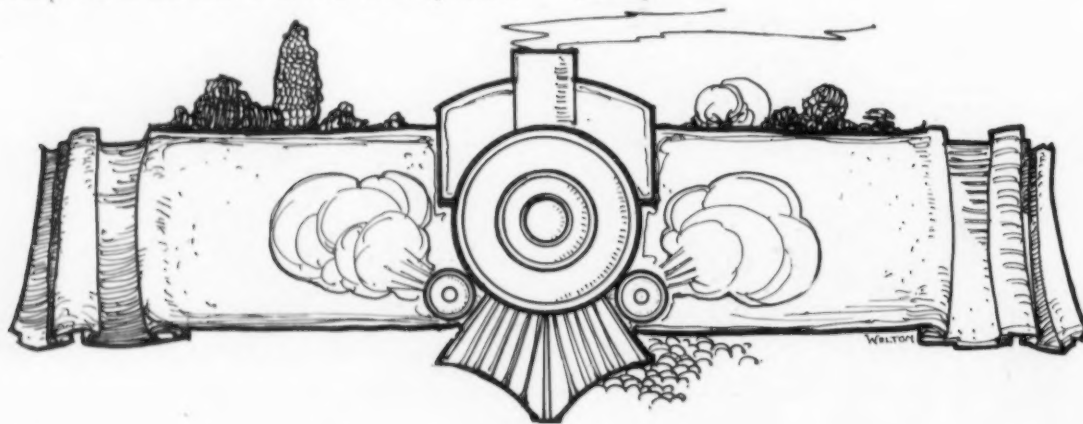
That type of plan which divides what might have been one fine large room of good proportions into two small sheathed boxes, facetiously termed, for the sake of courtesy, "ladies' and gents' waiting-rooms," is particularly to be condemned. These rooms, usually resplendent with "golden oak" woodwork are so ingeniously separated that a man might quite easily lose his wife in the shuffle, a condition generally, though not always, considered a disadvantage. The baggage room in this type of plan is usually relegated to a wart-like excrescence at one end of the building accessible only from the outside and forever in the way of passers-by.

The building here illustrated is intended to be built of brick and terra cotta. The walls outside could be ornamented with a diaper pattern, crossed by horizontal lines forming octagonal spaces, with a terra cotta shell in the center, or otherwise accented by certain color elements in the use of tile or Robbias.

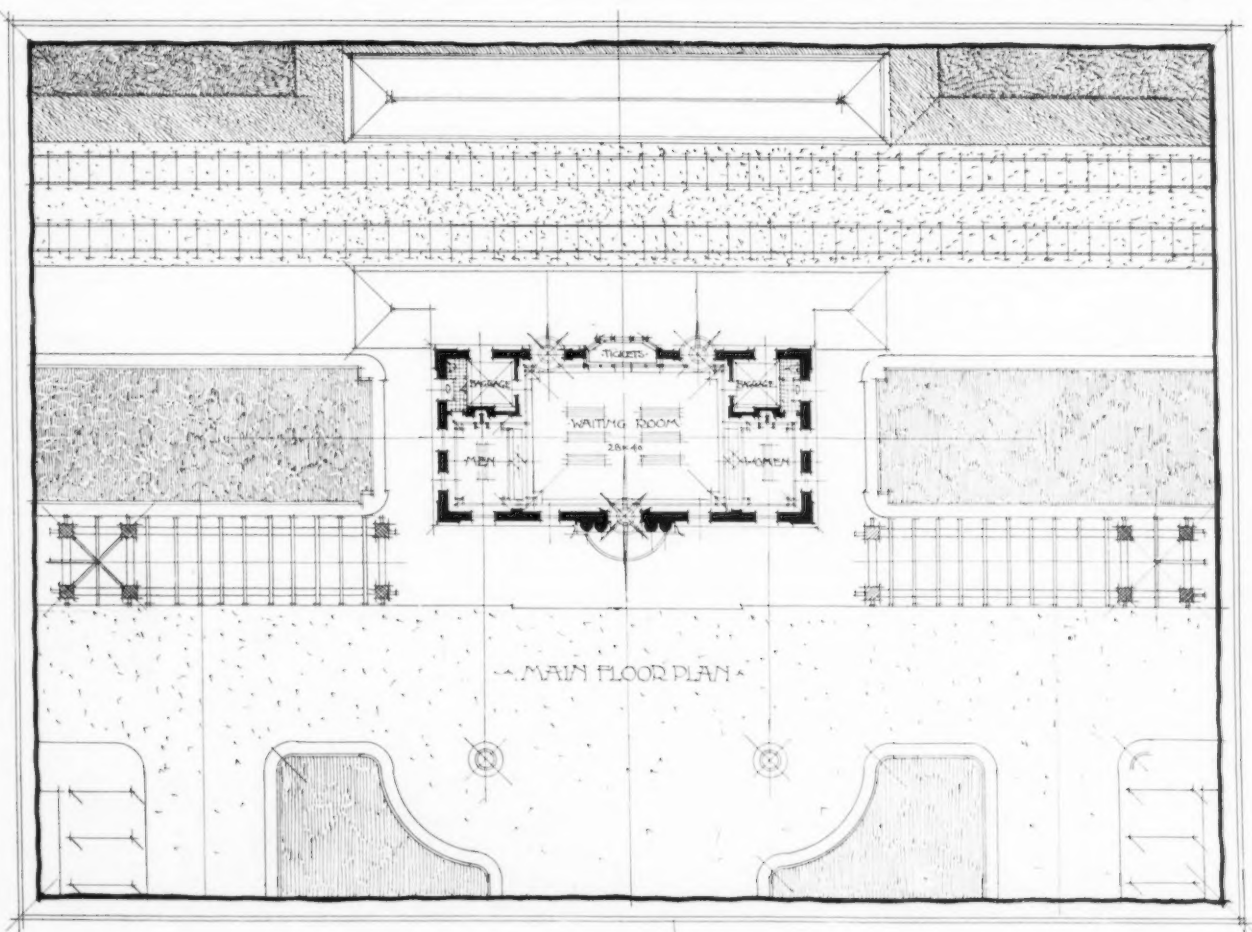
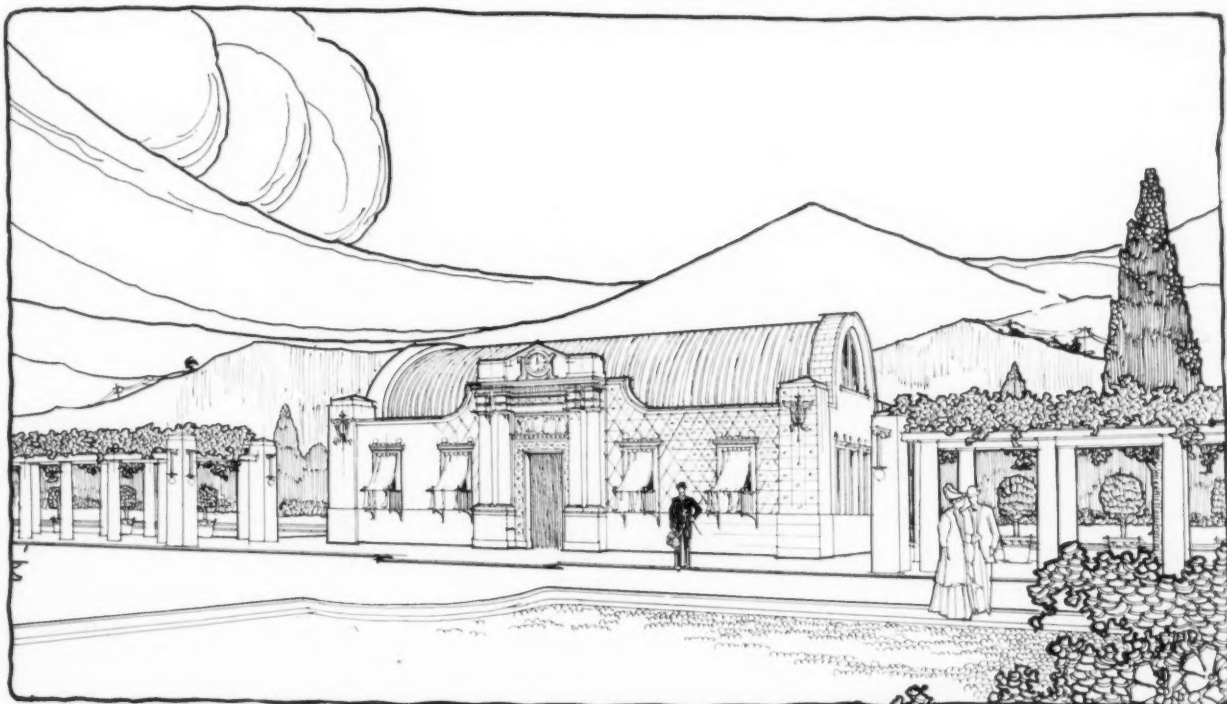
For the roof let us go to the good old examples in the Spanish churches of Mexico, the possibilities of which never seem to have been fully realized. Inside, this same roof becomes a fine barrel vault like the church of the Miracoli at Venice, except in our case tile instead of wood, carrying down to the floor, also of tile, laid herring bone. Certain spots of color at the impost line, above the doors, around the ticket office and clock, as well as the brick-lined fireplaces, might add much interest to the interior.

If I may speak of the exterior without indulging in a discourse on architecture, for manifestly the subject of this article is a village railway station, I would offer, as a personal impression, that it is perhaps better to profit by the use of our legacy of architectural forms, as did Peruzzi in Italy and Gabriel in France, adapting them to modern conditions, than to make a vain show of sciolism by brushing aside the learning of three thousand years and grossly claim to have the only solution for good architecture.

So right here in southern California there exist to-day traces of an unmistakable art left by the hand of Indian neophytes under Spanish guidance, an architectural inheritance of which America may well be proud, at once furnishing us a logical precedent for the character of our building in the preservation of the traditions of the country.



M. 104



A VILLAGE RAILWAY STATION.  
William L. Welton, Architect.



## Editorial Comment and Miscellany

### THE TRIBUNE BUILDING, CHICAGO, TESTED BY FIRE.

"THE fireproof qualities of the Tribune Building were demonstrated effectively early on the morning of April 29, during a blaze, which originated from some unknown cause in one of the storage rooms on the eighteenth floor.

"The rooms situated on the top floor of the structure, on the Dearborn Street side, were filled with records and other inflammable material. This burned rapidly, but the flames were confined to the three small apartments where they started.

"It was the highest fire from the street level since the days of skyscrapers in Chicago. The flames were extinguished by water, forced through the standpipe of the building to the top floor by fire engines, and the pressure proved ample.

"The fire gave positive evidence of the safety of towering buildings of modern construction. It showed that no matter where a fire occurs in such a building, it is impossible for it to spread to any extent.

"The fire was just under the roof and the heat of the flames is indicated by the fact that the wire reinforced glass in the skylight melted in places, and in others became so soft that it dropped down in fantastic shapes. Also a ten-foot steam pipe which ran through the room in which the fire originated, although covered with asbestos, was totally destroyed.

"In the section swept by the flames was a room used by the electrician and the carpenter of the Tri-

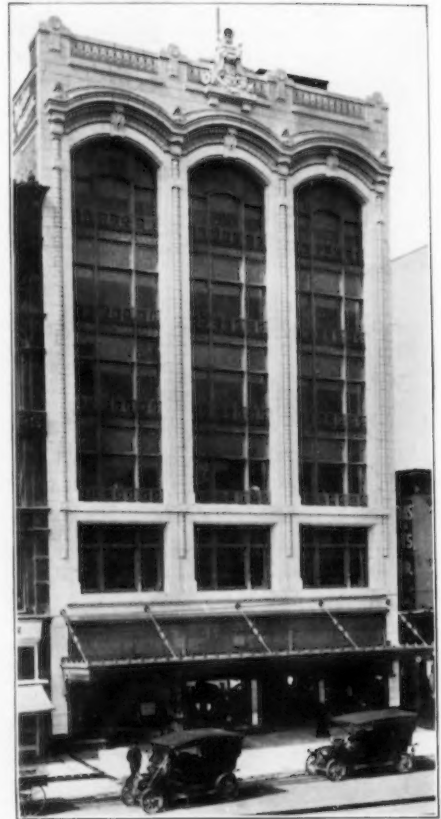
bune Company, and two rooms used for the records of the auditing department of the newspaper, containing data for a number of years back. Many of these records were destroyed.

"These three small rooms had glass windows set in their partitions of fire brick. This glass was destroyed by the heat and permitted the flames to spread. Had there been no glass in the fireproof par-

titions the flames would have been confined to one room, according to the firemen.

"The partition walls were left intact and the floors were uninjured. The flames did not spread outside the outer partition wall separating the storage rooms from the corridor. The building was fireproofed with terra cotta hollow tile."

The foregoing description of the fire was published in the *Tribune* — "the party of the first part."



GRINNELL BUILDING, DETROIT.  
Albert Kahn, Architect.  
Entire front of full white glaze terra cotta,  
made by Atlantic Terra Cotta Co.



THE TRIBUNE BUILDING, CHICAGO.  
From photograph taken after the fire.

FIRE occurred in fifty-eight public or private school buildings in the United States and Canada during the first three months of this year. The property loss was large. More important than that, the lives of thousands of school children were endangered. A tabulation by the Insurance Press fails to show the cause of the fire in each instance, but in the majority of cases, where the cause is stated, a defect in the flue, the furnace, the wiring, or in some other detail of construction, is named as responsible. A list of six hundred and forty-five cities and towns in the United States is given in which communities, it is said, investigation has shown a lack of necessary precaution for the safety of school children. If there is one type of buildings which needs to be fireproofed it is the schoolhouse. The people may be depended upon to contribute the additional cost if the way is pointed out to them by those whose business it is to point the way in matters of this sort.



DETAIL ON SCHOOL OF APPLIED DESIGN.  
Pell & Corbett, Architects.  
Conkling-Armstrong Terra Cotta Co., Makers.

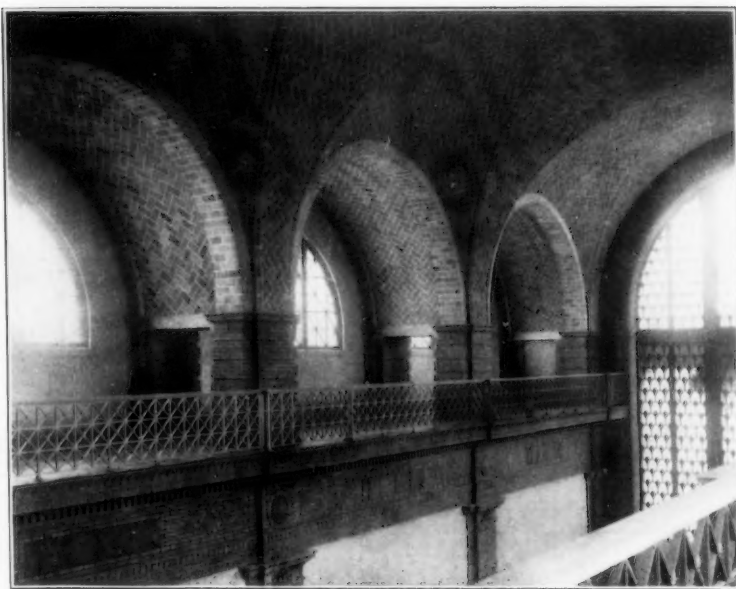


ALTHOUGH his skill finds greatest scope in permanent forms, the architect may devote himself with scarcely less success to temporary structures such as civic decorations for street and other pageants. A matter of national interest is the embellishing of Pennsylvania Avenue in Washington for the next inaugural parade. A competition for this has been instituted by the local chapter of the American Institute of Architects, the Washington Architectural Club and The National Society of Fine Arts. Three prizes are to be

given and the designs placed at the disposal of the inaugural committee on decoration. The route of the parade from the Capitol to Seventeenth Street is to be treated, and the designs are to include stands and other structural features. It is stipulated that the flag shall only be used where it can float freely as from a staff. In this connection it is interesting to refer to the decorations of Paris by eminent architects of France on the occasion of the marriage of Napoleon to Marie Louise.

THE Government appropriation of \$1,200,000 for a deep waterway three hundred feet wide, from Newark Bay up the Passaic River to the northern limits of Newark, is a forecast of important building schemes in this vicinity. Dredgings from the river are to be deposited over the adjoining meadows, and will aid in furnishing factory sites. A large sum has been voted by the people of Newark for the construction of public docks, and private enterprises of proportional scale are likely to follow.

MRS. RUSSELL SAGE is interesting herself in restoring that masterpiece of Colonial architecture, the New York City Hall, to conform with the original plans for the building as drawn by John McComb, assisted by Lemaire. Already the Governor's Room has been restored, under the direction of McKim, Mead & White. Mrs. Sage donated



MAP ROOM, WAR COLLEGE, WASHINGTON, D. C.  
McKim, Mead & White, Architects.  
Guastavino Tile Construction.

architects, Boston, has been appointed building commissioner for the city of Boston.

Elmo C. Lowe and Horace C. Ingram have formed a partnership for the practice of architecture, with offices in the Corn Exchange Bank Building, Chicago.

R. Burnside Potter, having retired from the firm of Robertson & Potter, architects, 160 Fifth Avenue, New York, the business will be continued under the firm name of R. H. Robertson & Son.



RAILWAY STATION, NEWBURG, OHIO.  
Roofed with Imperial Spanish Red Tile.  
Made by Ludowici-Celadon Co.

Colt; secretary, Will Walter Jackson; recorder, F. Livingston Pell; treasurer, H. G. Emery; governors, W. A. Delano, J. T. Tubby, Jr., D. Everett Waid, Harold C. Werner.

The report is current that the Pennsylvania, the St. Paul & Chicago and Northwestern Railroads will build in Chicago, west of the Chicago River, a union passenger station, which will be the largest in the world, at a cost of about one hundred millions of dollars. The other roads entering the city will also use this station.

The Metropolitan Life Insurance Company has decided to have its tower on Madison Square, New York, built to a



DETAIL BY J. WARNER ALLEN, ARCHITECT.  
South Amboy Terra Cotta Co., Makers.



HOUSE AT CINCINNATI, OHIO.

Built of Shawnee Brick, made by Ohio Mining and Manufacturing Co.

height of fifty stories, instead of forty-eight, as first planned. When completed, the summit of the tower will

notable on account of their locations and the fact that they are likely to become dominating features of architectural schemes later to be developed. The former hotel, designed by Marshall Mackenzie & Son is in the concave curve of the new, wide street of Aldwych; the latter, by Norman Shaw, stands as a key for the reconstruction of the Regent Street Quadrant.

The discussion in the House, anent the housing of American ambassadors abroad, provided some very entertaining reading in the otherwise prosaic *Congressional Record*. And now that the bill has passed for the purchase of a mansion in Paris, it is to be hoped that embassies elsewhere will be straightway acquired. But why purchase them? American architects are the leaders of the world in planning domestic establishments and they should be given a chance to house Uncle Sam's large and scattered family.

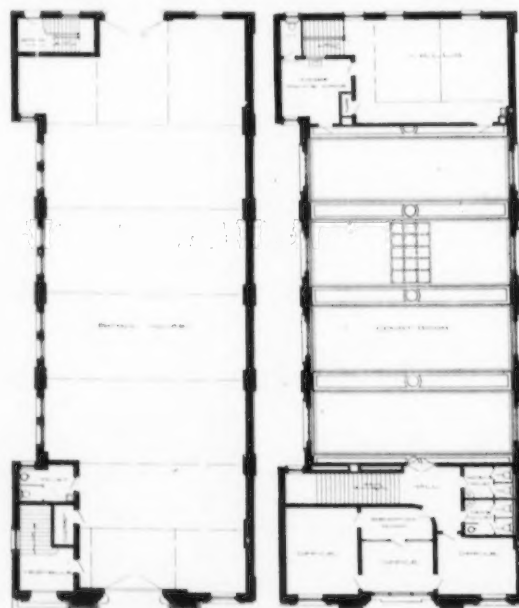
The Second Prize, \$2,000, awarded in the Competition



FIRST DISTRICT POLICE COURT AND PATROL WAGON HOUSE, ST. LOUIS, MO.

James A. Smith, Architect.

Terra Cotta by St. Louis Terra Cotta Co.



be six hundred and ninety-three feet above the sidewalk, or eighty-one feet higher than the Singer Building.

The restoration of normal financial conditions is bringing increasing capital into the mortgage market, where it may be had at fairly reasonable rates. In New York, five per cent is now accepted, and extensive building improvements are again being projected, though on rather a more rational scale than in the recent past.

The Press Club is to add another to the long list of clubhouses in New York City. Property recently purchased at the corner of Spruce and William streets will be improved by the erection of a twelve-story building, of which the lower four floors are to be rented as stores or offices, and the remainder devoted to a completely appointed home of the club.

Two fine new hotels nearing completion in London are the "Waldorf" and the "Piccadilly." Both are

for the Capitol Building of San Juan, Porto Rico, was won by Ritchie & Abbott of Boston, and not Ritchie Abbott



HOUSE AT ITHACA, N. Y.

William H. Miller, Architect. Built of "Ironclay" Brick.



DETAIL BY HALL & BAKER, ARCHITECTS.  
American Terra Cotta Co., Makers.

The architectural terra cotta used in the three new buildings for the Syracuse University, illustrated in this issue, was furnished by the Atlantic Terra Cotta Company.

The new Lotos Club Building, New York, Donn Barber, architect, promises to be unusually interesting as an example of texture and pattern work in brick. Fiske & Co. of New York will supply the face and ornamental brick for the building.

The architectural terra cotta used in the Vincent Memorial Hospital, Boston; Tarratine Club, Bangor; Public Baths, East Twenty-third Street, New York, illustrated in THE BRICKBUILDER for April, was executed by the Atlantic Terra Cotta Company.

The Indianapolis Terra Cotta Company will furnish the architectural terra cotta for the following new buildings: Elks Club, Terre Haute, Ind., Martin Miller, architect; High School, Sharpesville, Ind., J. T. John-

son & Co., architects; public school, Indianapolis, H. C. Brubaker & Co., architects; Y. W. C. A. Building, Indianapolis, D. A. Bohlen & Son, architects; Y. M. C. A. Building, Indianapolis, Foltz & Parker, architects.



DETAIL OF STORAGE BUILDING FOR METROPOLITAN LIFE  
INSURANCE CO., BRONXVILLE, N. Y.  
N. Le Brun & Sons, Architects.  
Terra Cotta by New York Architectural Terra Cotta Co.

The increased use in this country of faience has put a demand upon the manufacturers for quality, which is being met by them in a most commendable spirit. Work which will meet the demands of the architect in the matter of colors, glazes and nicety of finish, and work which will withstand the ravages of time is recognized by the manufacturers as being paramount in the development of this business. The Doultons of England have long been famous for the excellence of their manufacture in this material, and it is announced by the Hartford Faience Company of Hartford, Conn., that they have secured the services of Francis G. Plant, who for a long time has had charge of the architectural faience work for Doulton & Co. Mr. Plant, who has had a large experience in executing work under the direction of architects, will have entire charge of the architectural faience work for the Hartford Company. This company will begin at once the manufacture of a new line of tiles for the decoration of buildings, and will also put on the market a new series of designs for mantel work, all of which will be executed under Mr. Plant's direction.



MAIN ENTRANCE, ADMINISTRATION BUILDING,  
SEARS, ROEBUCK & CO. GROUP, CHICAGO.  
Nimmons & Fellows, Architects.  
Gray Terra Cotta executed by Northwestern Terra Cotta Co.



ORNAMENT OVER WINDOW.  
Widmann & Walsh, Architects.  
Made by Winkle Terra Cotta Co.

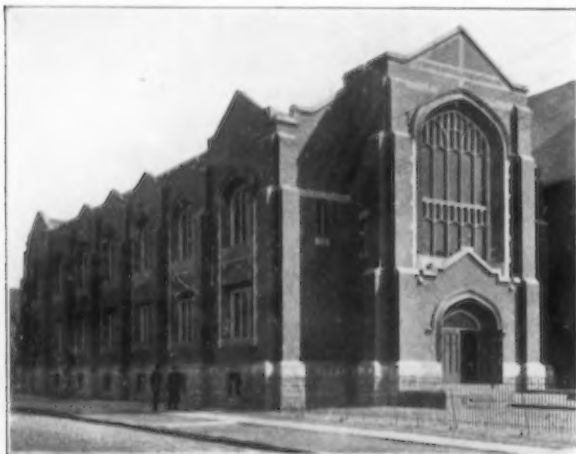




DETAIL BY ISRAELS & HARDER, ARCHITECTS.  
New Jersey Terra Cotta Co., Makers.

#### COMPETITION FOR THE MUNICIPAL BUILDING GROUP, SPRINGFIELD, MASS.

THE Municipal Building Commission of Springfield, Mass., announce a competition for the proposed new Municipal Building Group, to comprise municipal offices, a large auditorium and a clock tower. The group is projected for a fine site facing the newly en-



PARISH HOUSE AND SUNDAY SCHOOL BUILDING, BUFFALO.  
Thomas W. Harris, Architect.  
Built of Red Shale Brick, made by Jewettville Pressed and  
Paving Brick Co.

larged public square which extends from the business center to the Connecticut River.

The competition will be held under the direction of Professor Warren P. Laird, of the University of Pennsylvania, and will consist of two parts: a preliminary, open to all qualified architects and a final confined to the authors of the two best designs in the preliminary, five especially invited architects, and all qualified Springfield architects. In the final competition will be awarded nine fees of four hundred dollars each; two to the Springfield architects submitting the best designs, and one to each of the other competitors, no competitive fee being paid to the architect awarded the prize.

The following architects have accepted the Commission's invitation to submit designs in the final part, viz.: Messrs. Cass Gilbert, Hale & Rogers, Lord & Hewlett, Peabody & Stearns and Pell & Corbett.

The conditions of the preliminary competition will be announced probably on Thursday, June 4, and drawings are to be delivered by noon of Saturday, June 27.

The preliminary competition will call for very few and simple drawings at thirty-second scale, its purpose

being to "try-out" the open field with the least possible outlay of time and expense to the competitor.

The Commission desires the participation in the preliminary part of all architects of good professional standing and of experience in the actual execution of large work. Applications are to be made on blank forms, which may be secured by addressing the adviser at the University of Pennsylvania, Philadelphia.

THE Board of School Inspectors of St. Paul has just purchased the sites for the location of four new high schools to be erected practically simultaneously, to take the place of the buildings now in use. The first building to be started is to be known as the New Mechanic Arts High School, centrally located. The Board has established an open competition for the purpose of selecting an architect. The programmes of this competition are now ready and will be submitted to any reputable architect applying for the same. The first prize will be the commission to design and supervise the erection of the building. Second and third prizes of four hundred and three hundred dollars respectively will be awarded to the next two architects whose designs shall be rated as second and third in order of merit.

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The changes in this edition consist of the correction of all typographical errors reported to the publishers, and the rewriting of Chapters XXIII and XXIV. This work has been done by Rudolph P. Miller. Professor Alvah H. Sabin has also brought the section on Paints and Varnishes up to date.

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E. B. LACEY, Editor

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Union Theological Seminary, New York City	6 sets of Drawings, 19 Plates
State Educational Building, Albany, N. Y.	10 sets of Drawings, 33 Plates
Bureau of American Republics' Bldg., Wash., D. C.	9 sets of Drawings, 35 Plates
Connecticut State Library and Supreme Court Building, Hartford, Conn.	4 sets of Drawings, 19 Plates
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1012 Walnut St.  
PHILADELPHIA

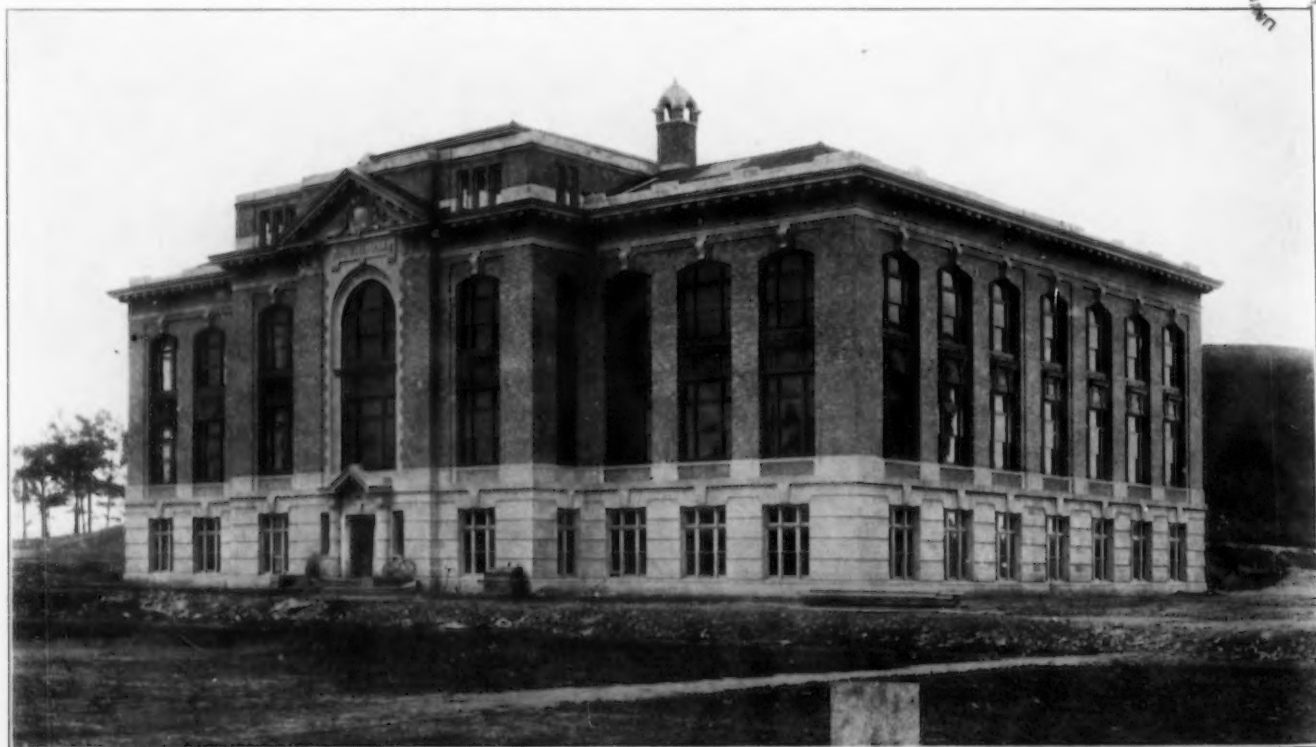
or

205-206 Caxton Bldg.  
CLEVELAND, O.





JOHN LYMAN HALL OF NATURAL HISTORY, SYRACUSE UNIVERSITY, SYRACUSE, N. Y.  
REVELS & HALLENBECK, ARCHITECTS.

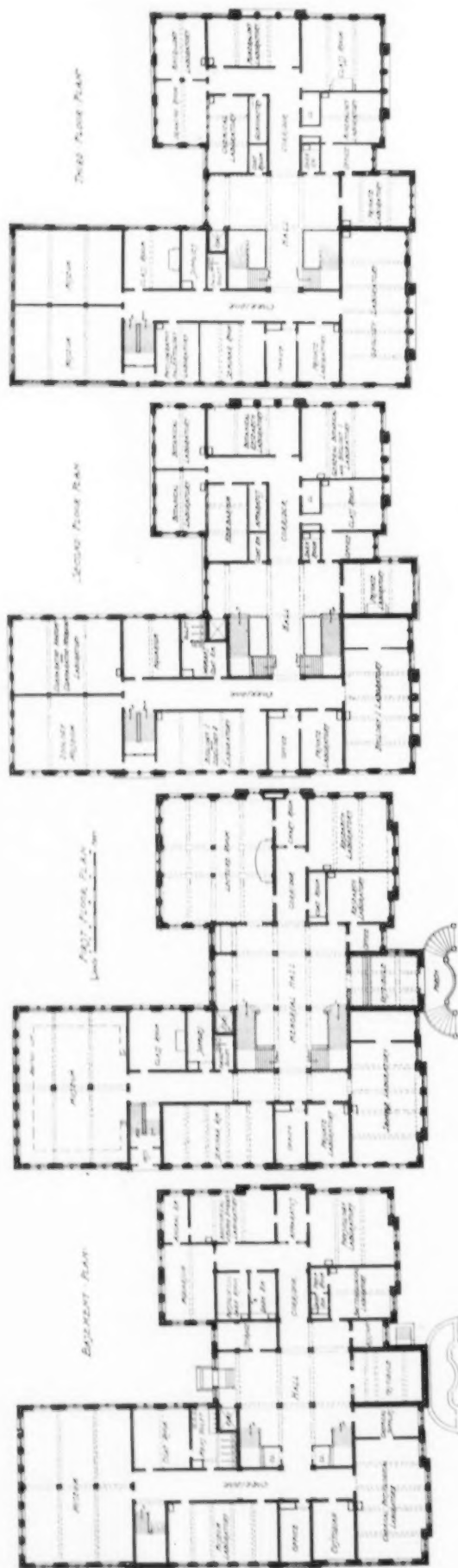


BROWNE HALL OF CHEMISTRY, SYRACUSE UNIVERSITY, SYRACUSE, N. Y.  
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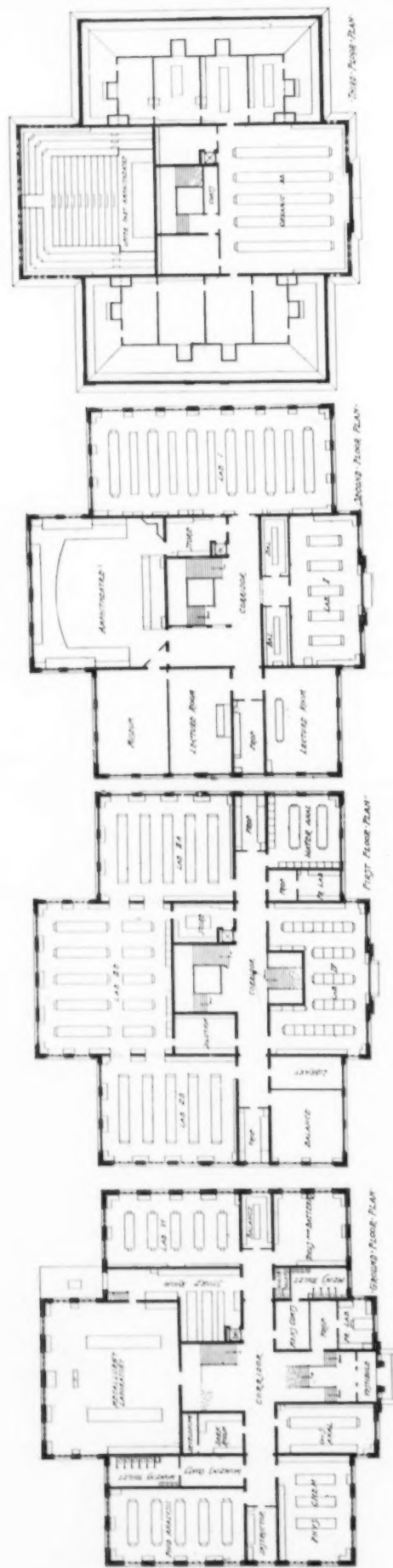
UP OF MICH







PLANS OF JOHN LYMAN HALL OF NATURAL HISTORY, SYRACUSE UNIVERSITY, SYRACUSE, N. Y.  
REVELS & HALLENBECK, ARCHITECTS.



PLANS OF BROWNE HALL OF CHEMISTRY, SYRACUSE UNIVERSITY, SYRACUSE, N. Y.  
REVELS & HALLENBECK, ARCHITECTS.

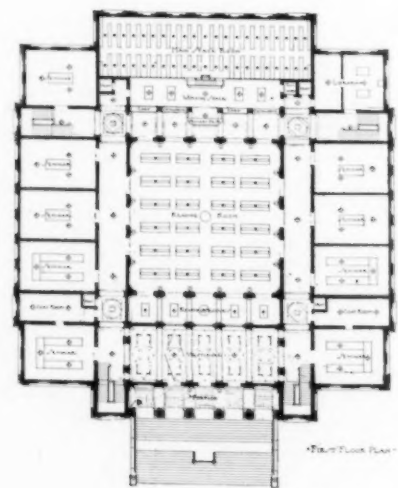
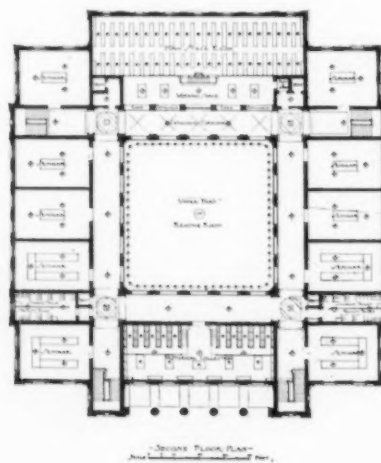
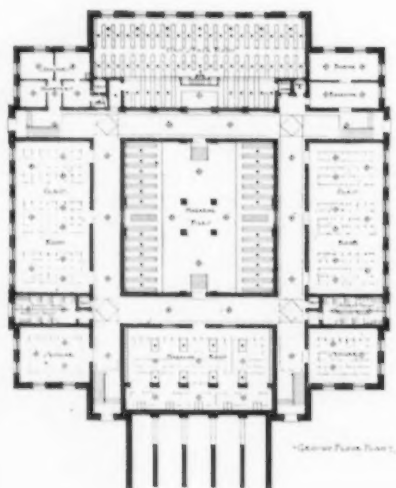


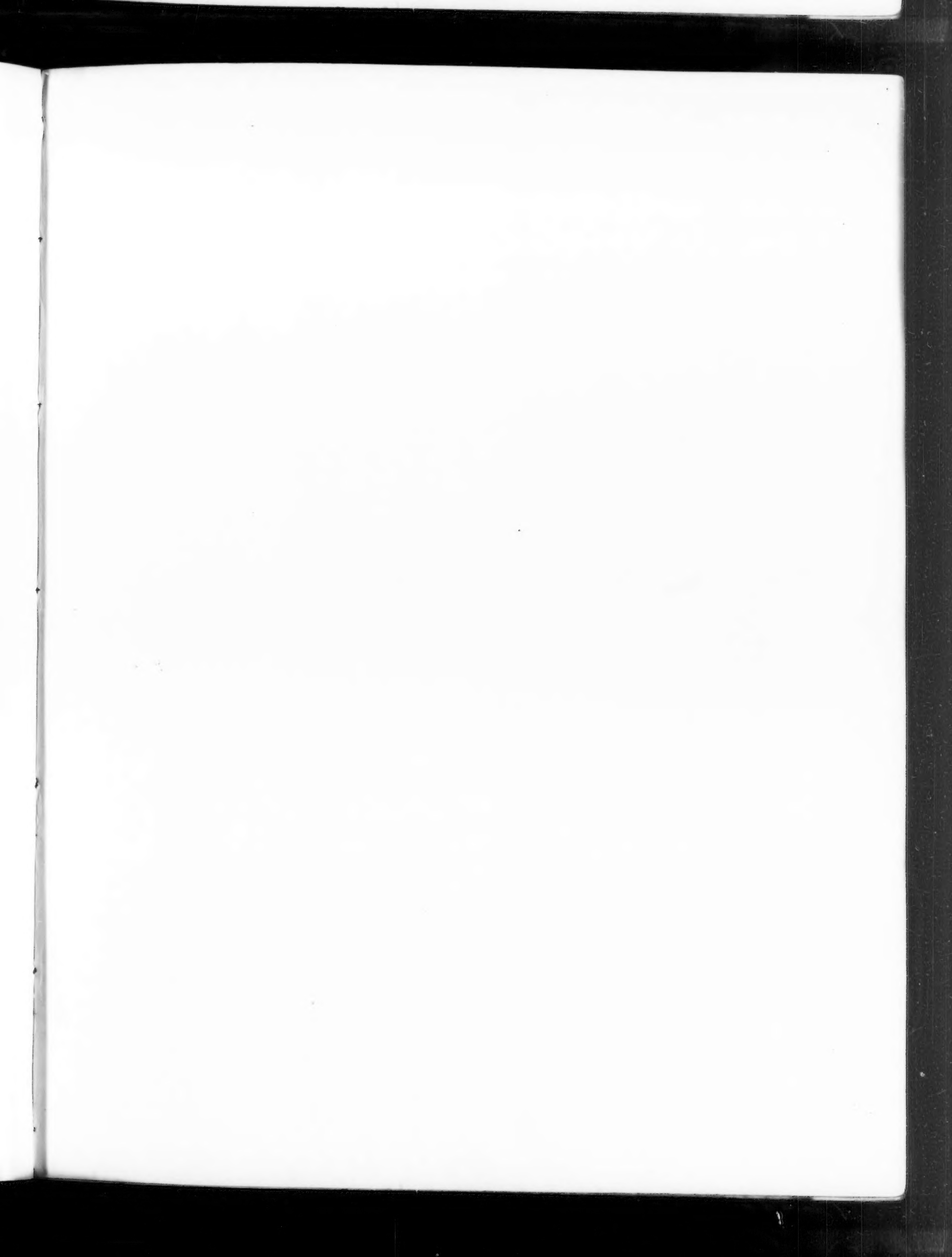


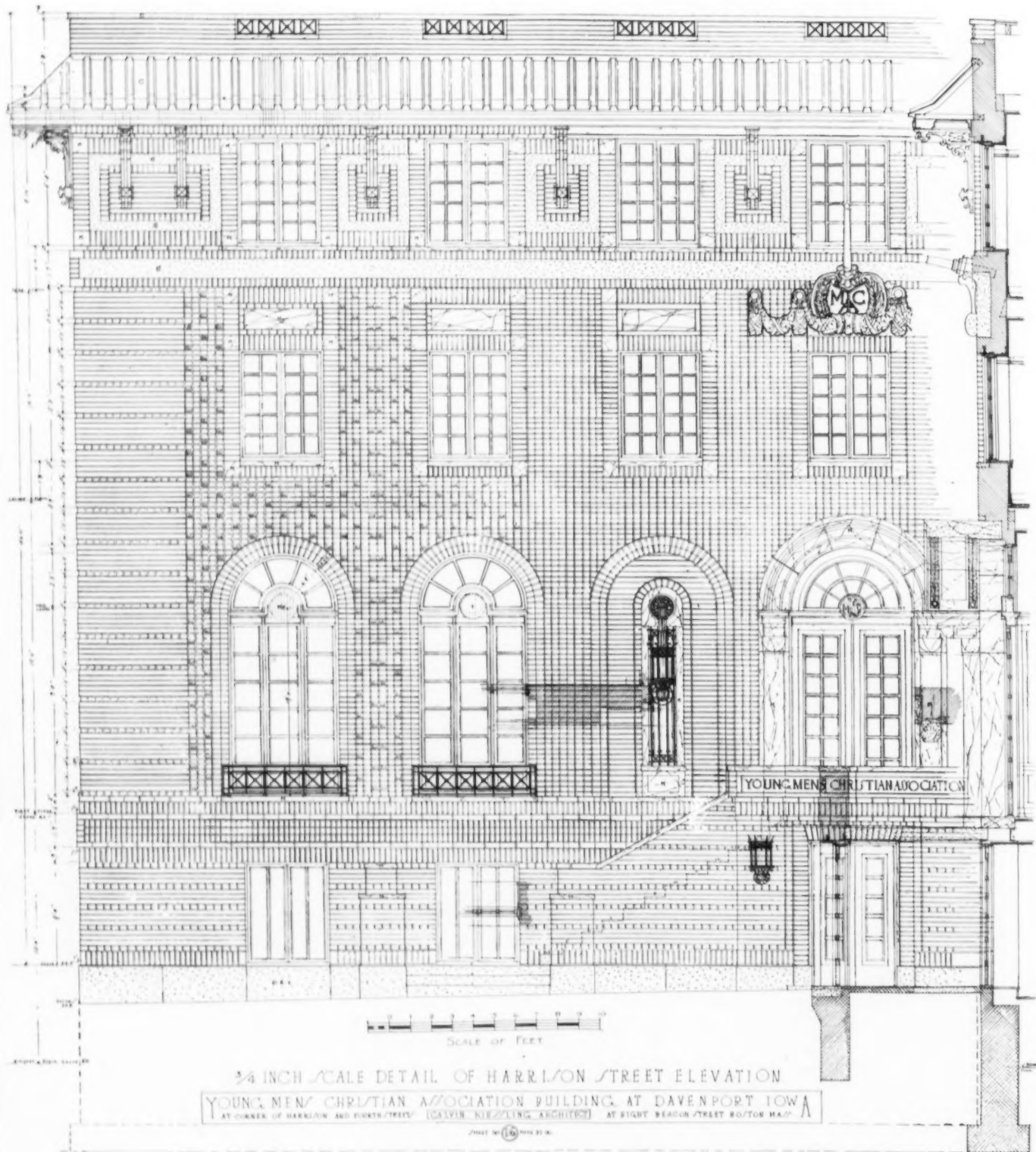


GENERAL LIBRARY (CARNEGIE), SYRACUSE UNIVERSITY,  
SYRACUSE, N. Y.

REVELS & HALLENBECK, ARCHITECTS.

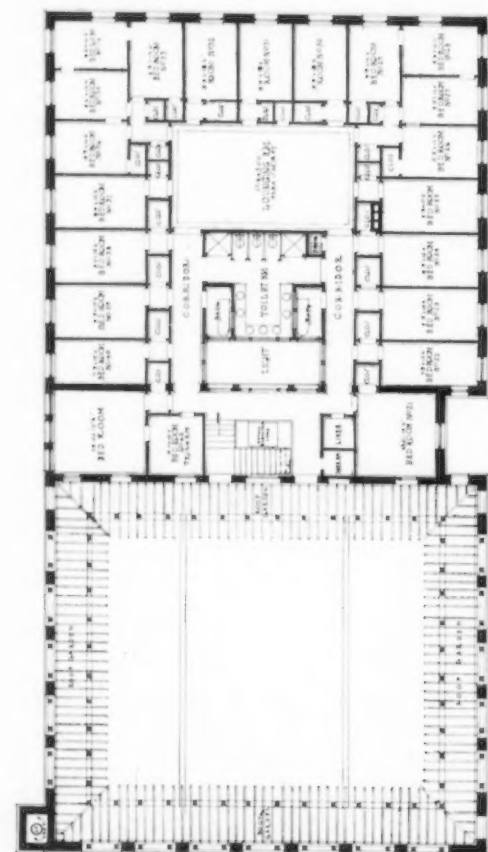




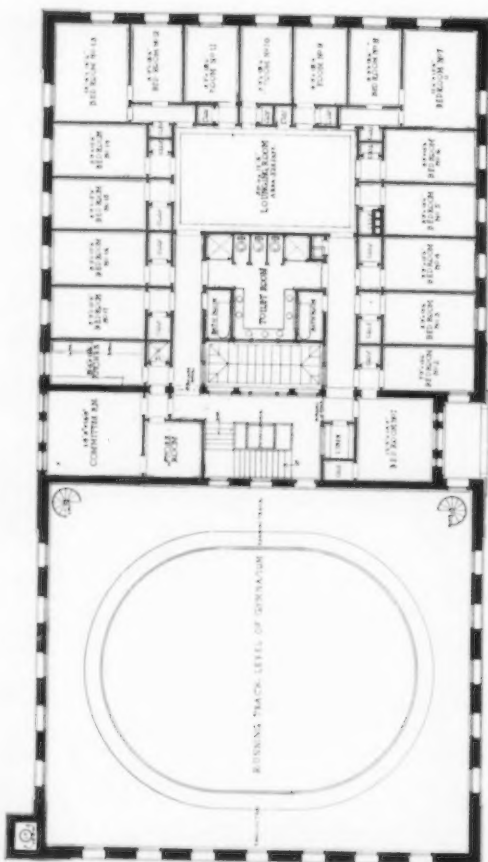




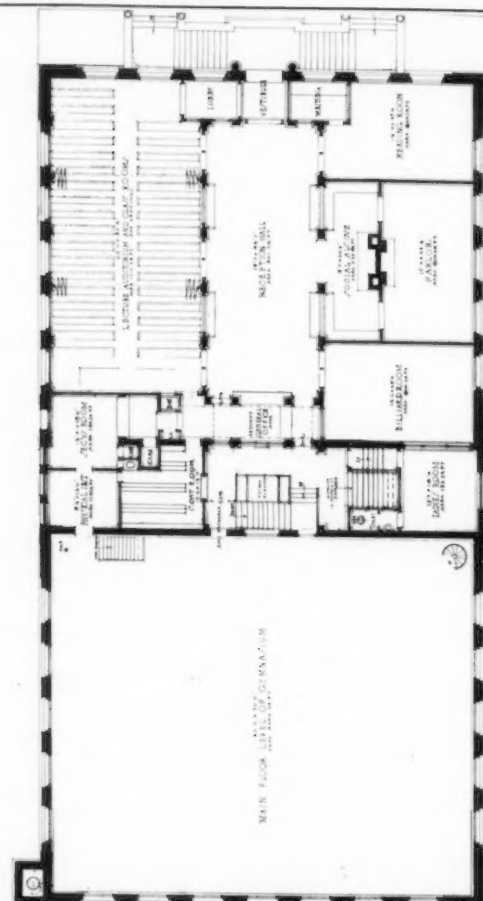




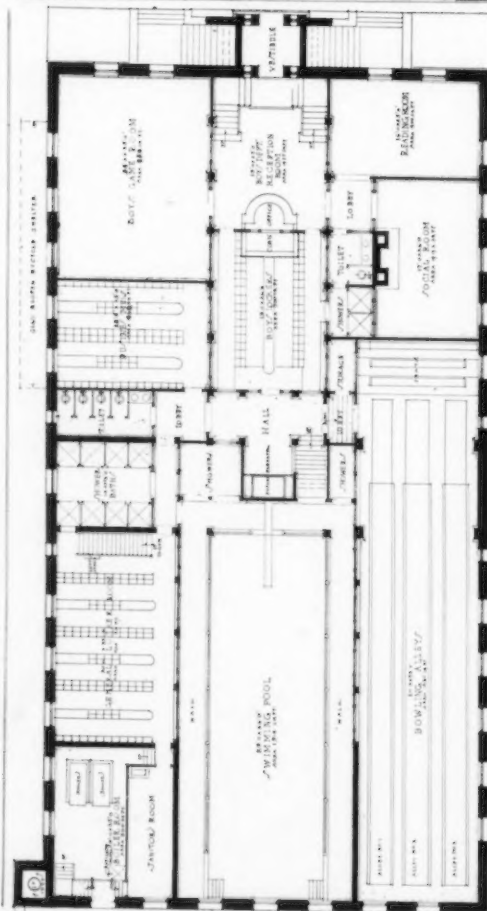
THIRD FLOOR PLAN.



SECOND FLOOR PLAN.



FIRST FLOOR PLAN.

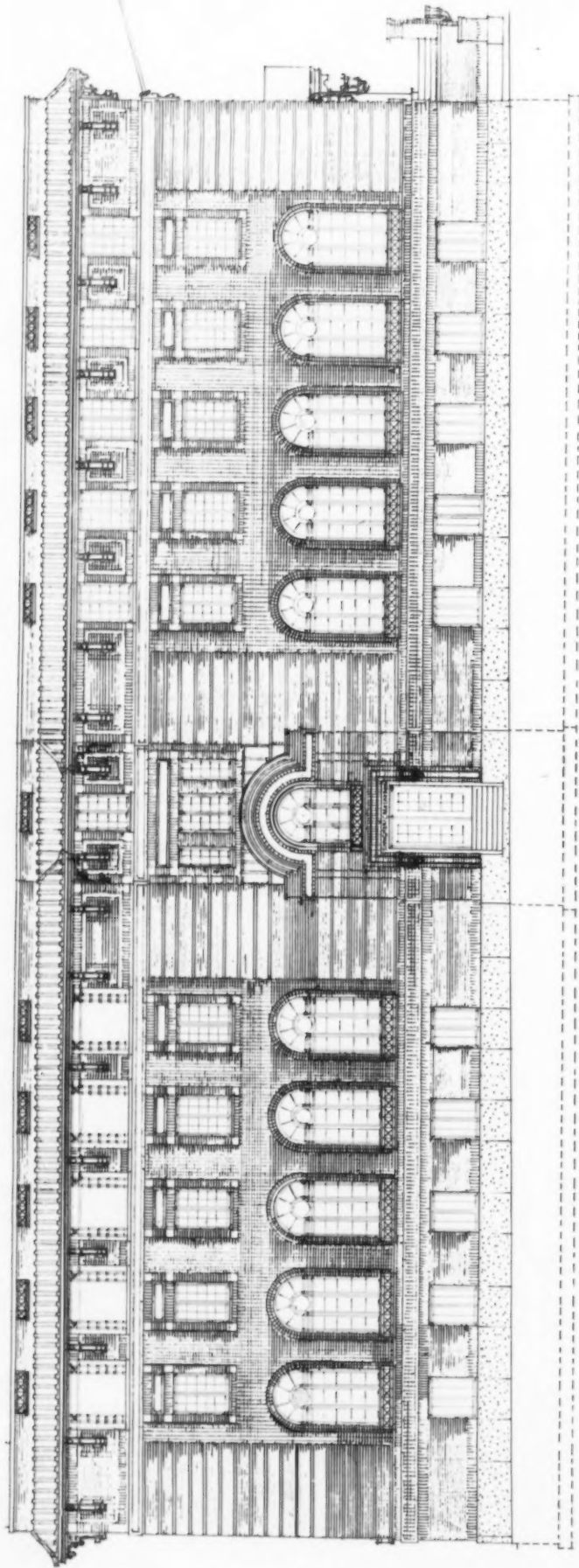


BASEMENT PLAN.

FLOOR PLANS, YOUNG MEN'S CHRISTIAN ASSOCIATION BUILDING, DAVENPORT, IOWA.  
CALVIN KIESSLING, ARCHITECT.





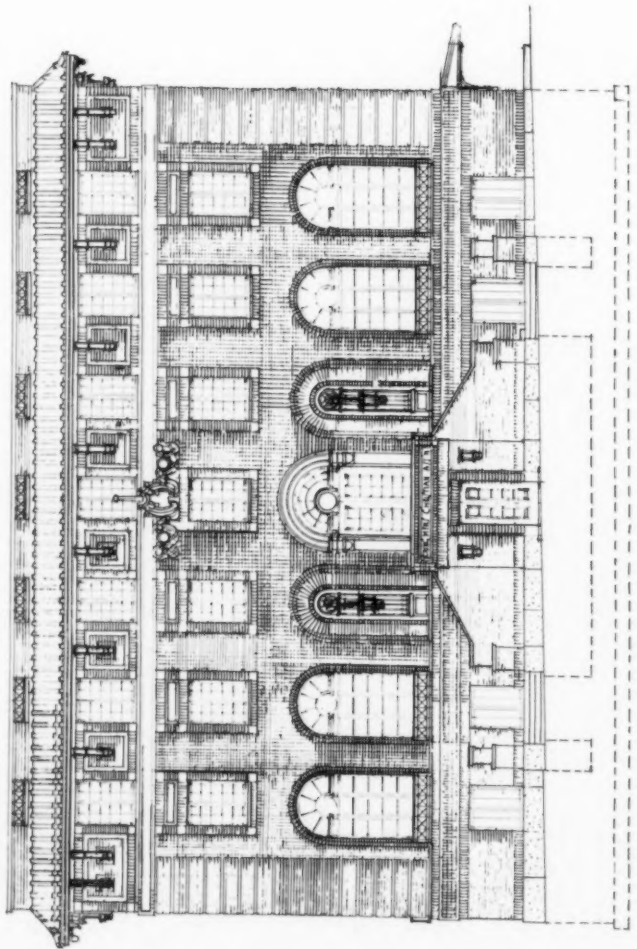


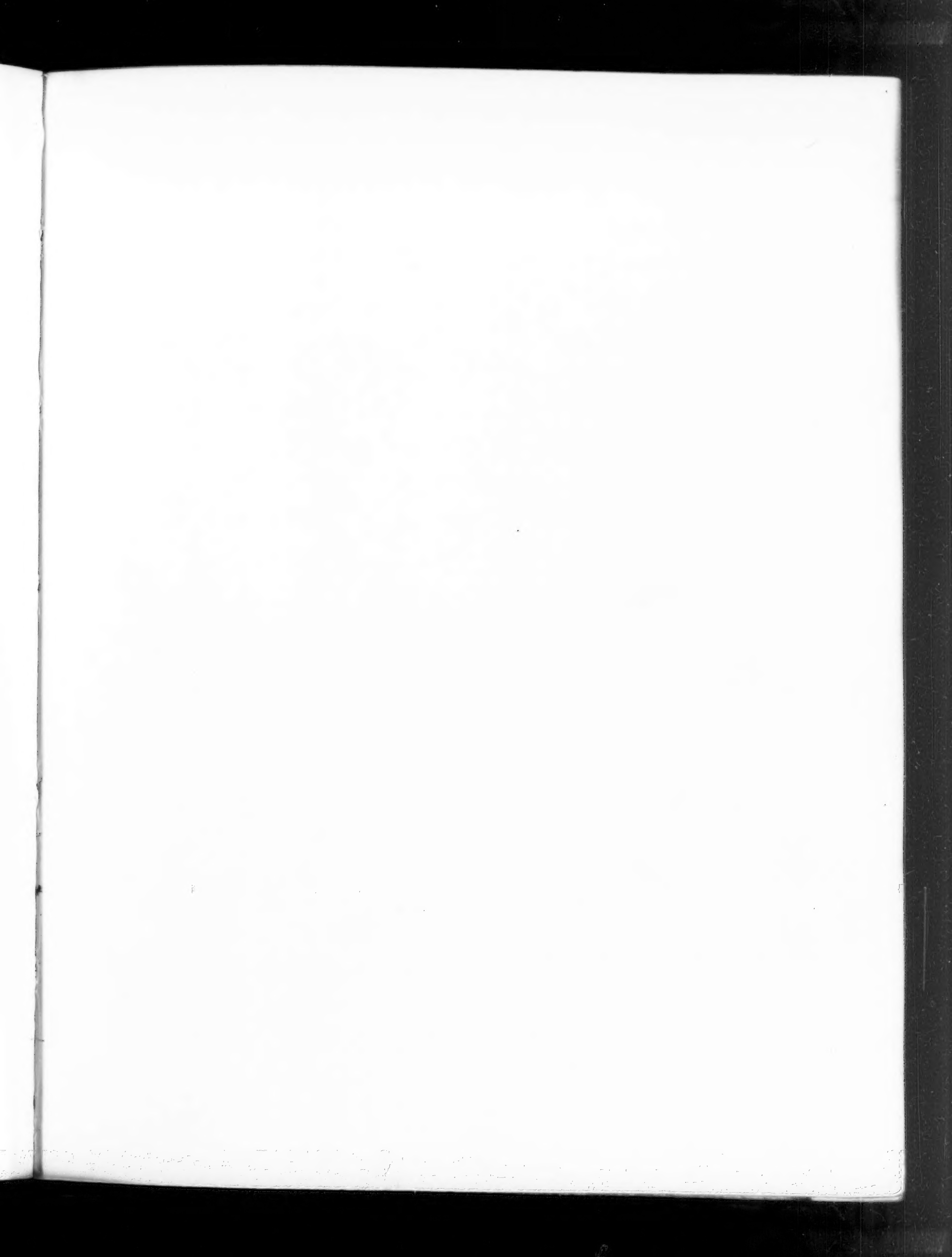
FRONT AND SIDE ELEVATIONS.  
YOUNG MEN'S CHRISTIAN ASSOCIATION  
BUILDING,

DAVENPORT, IOWA.

(DESIGN SELECTED IN COMPETITION.)

CALVIN KIESSLING, ARCHITECT.







GATE LODGE.

V. OF MICH



GATE LODGE AND STABLE HOUSE AT LAKE FOREST, ILLINOIS.  
SPENCER & POWERS, ARCHITECTS.





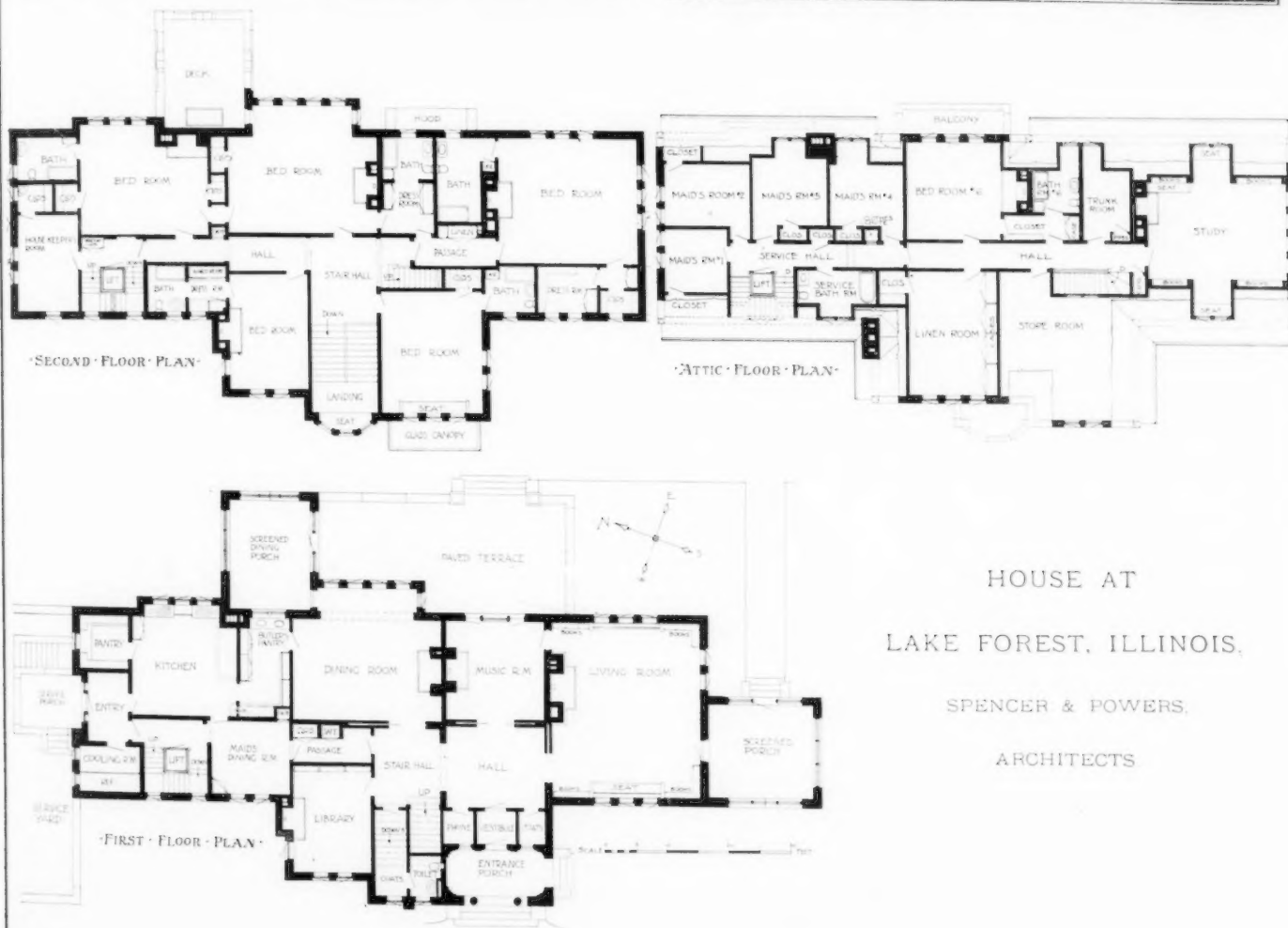
UNK  
404



UNK  
404

HOUSE AT LAKE FOREST, ILLINOIS.  
SPENCER & POWERS, ARCHITECTS.





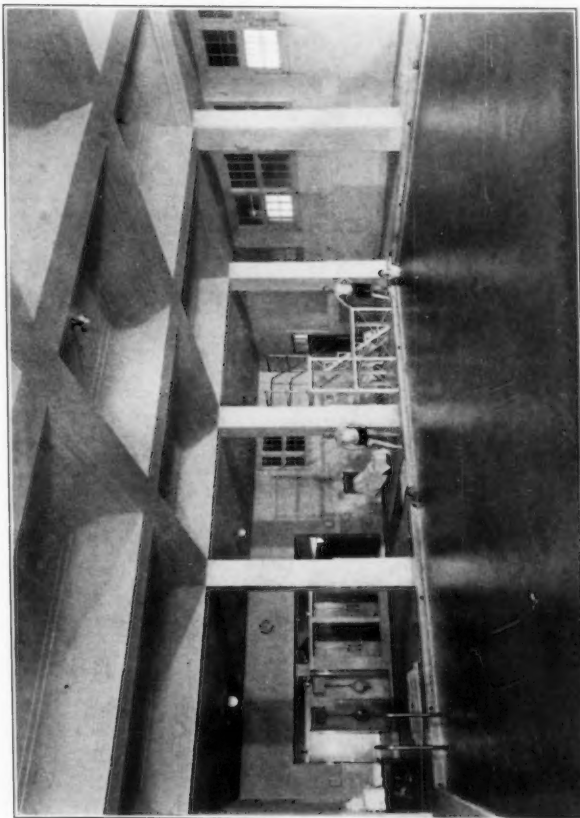
HOUSE AT  
LAKE FOREST, ILLINOIS,  
SPENCER & POWERS,  
ARCHITECTS



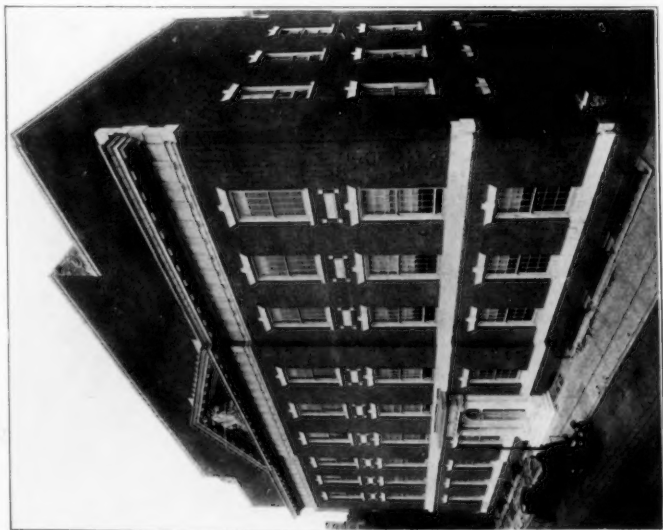




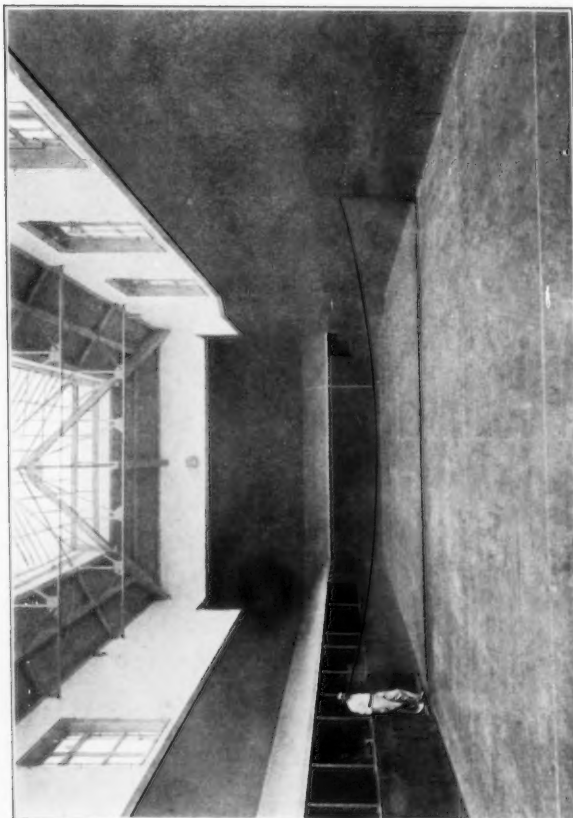
MAIN HALL.



SWIMMING POOL, THIRD FLOOR.



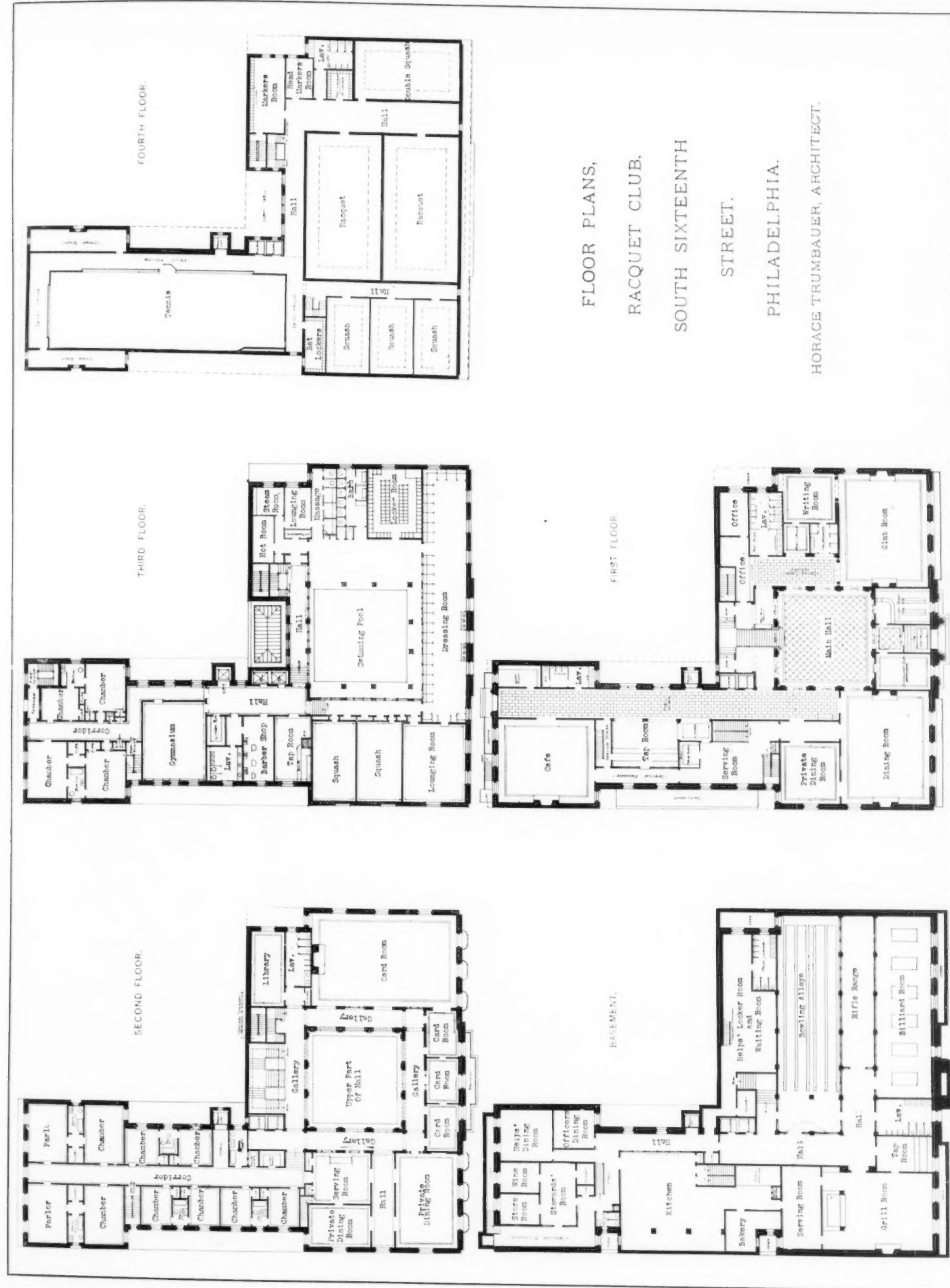
RACQUET CLUB,  
SOUTH SIXTEENTH  
STREET,  
PHILADELPHIA.  
HORACE TRUMBauer  
ARCHITECT.



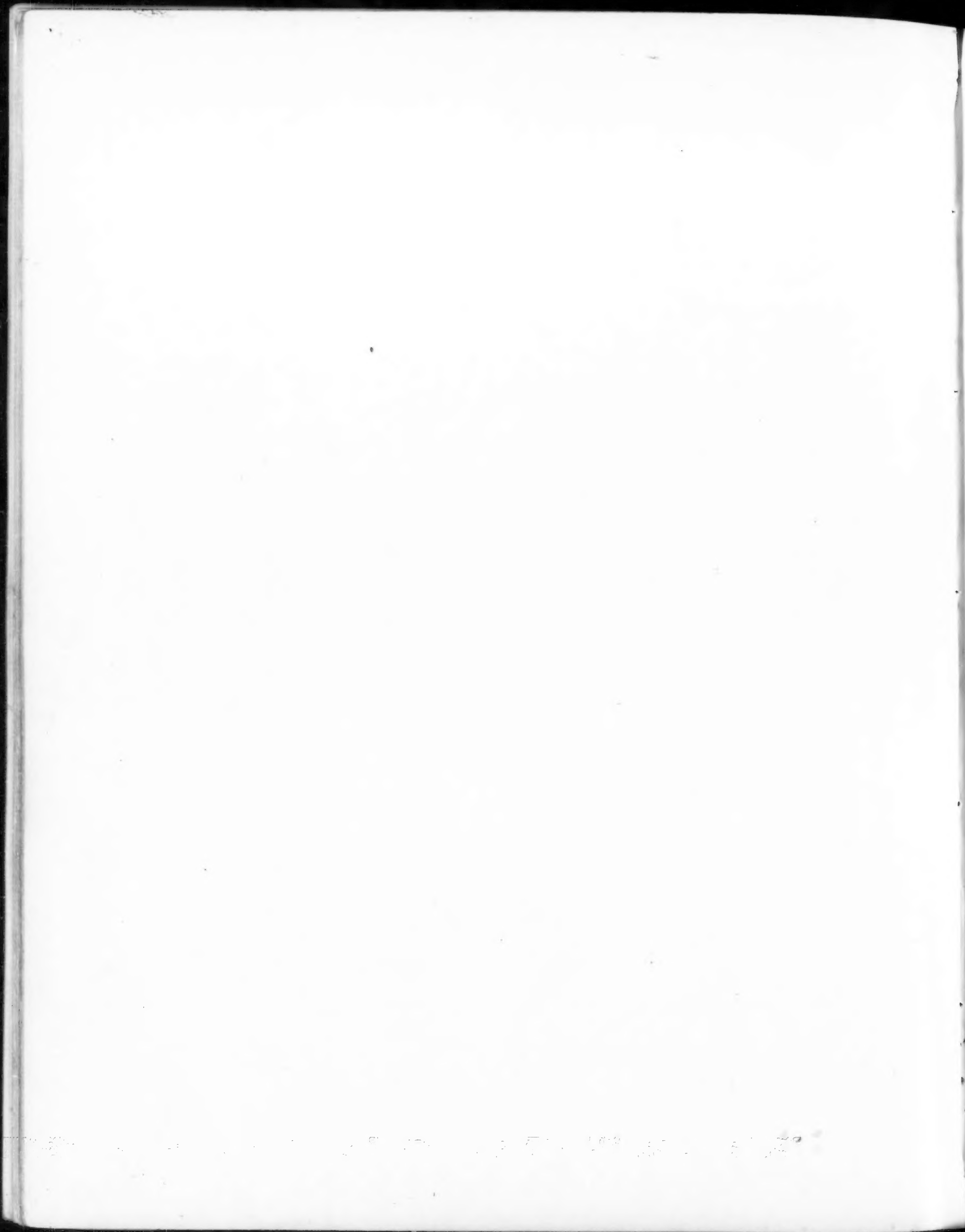
RACQUET COURT







FLOOR PLANS,  
RACQUET CLUB,  
SOUTH SIXTEENTH  
STREET,  
PHILADELPHIA.  
HORACE TRUMBauer, ARCHITECT.





BUILDING FOR FILING RECORDS,  
METROPOLITAN LIFE INSURANCE COMPANY,  
BRONXVILLE, NEW YORK.

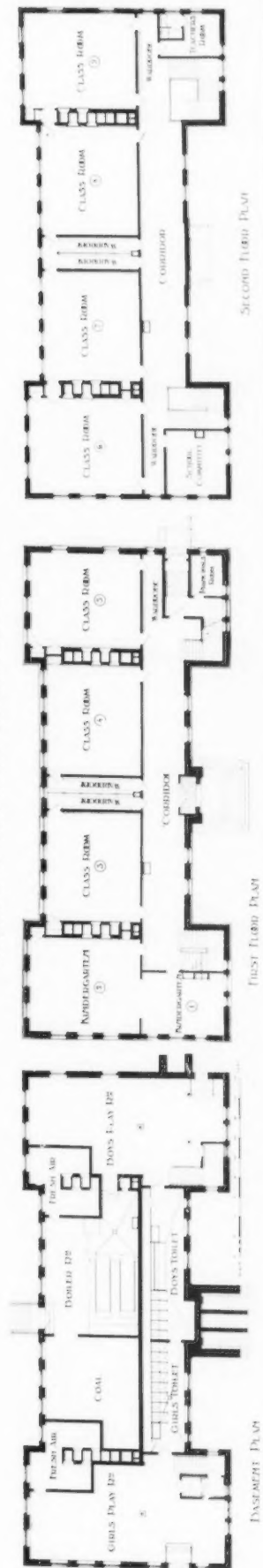
N. LE BRUN & SONS, ARCHITECTS.







GRAMMAR SCHOOL, MARBLEHEAD, MASS.  
KILHAM & HOPKINS, ARCHITECTS.









DETAIL OF MAIN ENTRANCE.  
GRAMMAR SCHOOL, MARBLEHEAD, MASS.  
KILHAM & HOPKINS, ARCHITECTS.